



Be Right™

SAFETY DATA SHEET

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Version 3.4

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Color	light brown/yellow
Appearance	aqueous solution	Odor threshold	No data available
Odor	Amine		

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
No data available.

Substance in vivo Data
No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

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Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2023

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

Issue Date 14-Dec-2020

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-BR

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	light brown/yellow
Odor	Amine	Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
No data available.

Substance in vivo Data
No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - 1

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2023

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-CN

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Color	light brown/yellow
Appearance	aqueous solution	Odor threshold	No data available
Odor	Amine		

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional affects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
No data available.

Substance in vivo Data
No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

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Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - 1

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2023

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-KR

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

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Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	light brown/yellow
Odor	Amine	Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
No data available.

Substance in vivo Data
No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

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Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

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Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2023

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-MY

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	light brown/yellow
Odor	Amine	Odor threshold	No data available

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE _{mix} (oral)	No information available
ATE _{mix} (dermal)	3,941.10 mg/kg
ATE _{mix} (inhalation-dust/mist)	6.25 mg/l
ATE _{mix} (inhalation-vapor)	45.30 mg/l
ATE _{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

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Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
No data available.

Substance in vivo Data
No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
No data available.

Ingredient Reproductive Toxicity Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

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Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

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Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

HACH COMPANY©2023

End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-LM

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
-----------------	--

Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
-----------------------------	--

and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid		
Appearance	aqueous solution	Color	light brown/yellow
Odor	Amine	Odor threshold	No data available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE _{mix} (oral)	No information available
ATE _{mix} (dermal)	3,941.10 mg/kg
ATE _{mix} (inhalation-dust/mist)	6.25 mg/l
ATE _{mix} (inhalation-vapor)	45.30 mg/l
ATE _{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
 No data available.

Substance in vivo Data
 No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
 No data available.

Ingredient Reproductive Toxicity Data
 Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
 Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - I

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet



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SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-TH

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Color	light brown/yellow
Appearance	aqueous solution	Odor threshold	No data available
Odor	Amine		

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

<u>Chemical name</u>	<u>CAS No</u>	<u>Volatile organic compounds (VOC) content</u>	<u>CAA (Clean Air Act)</u>
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional effects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
 No data available.

Substance in vivo Data
 No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
 No data available.

Ingredient Reproductive Toxicity Data
 Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
 Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thresholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - 1

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealand's Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

Issue Date 14-Dec-2020

Revision Date 26-Jan-2024

Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet



Be Right™

SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Amino Acid Reagent for Phosphate and Silica

Other means of identification

Product Code(s) 193432-TW

Safety data sheet number M00295

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Silica determination. Phosphate determination.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

Hach Company, P.O.Box 389, Loveland, CO 80539, USA, +1(970) 669-3050

Emergency telephone number

+1(303) 623-5716 - 24 Hour Service

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 1
Respiratory sensitization	Category 1
Reproductive toxicity	Category 1B
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H318 - Causes serious eye damage
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled
H360 - May damage fertility or the unborn child
H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P280 - Wear protective gloves, protective clothing, eye protection, and face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P285 - In case of inadequate ventilation wear respiratory protection
P304 + P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
P501 - Dispose of contents/ container to an approved waste disposal plant
P201 - Obtain special instructions before use
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P273 - Avoid release to the environment

Other Hazards Known

May be harmful if swallowed
May be harmful in contact with skin
Causes mild skin irritation
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.
Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
N,N-Dimethylformamide	68-12-2	20 - 30%	-
Sodium metabisulfite	7681-57-4	3 - 7%	-
Sodium sulfite	7757-83-7	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in

attendance.

Inhalation	Remove to fresh air. May cause allergic respiratory reaction. If breathing has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Get immediate medical advice/attention.
Eye contact	Get immediate medical advice/attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. May produce an allergic reaction. Get immediate medical advice/attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Coughing and/ or wheezing. Itching. Rashes. Hives.
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Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.
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5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media	Caution: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by inhalation and skin contact.
Hazardous combustion products	Sulfur oxides. Dimethylamine. Nitrogen oxides. Carbon monoxide, Carbon dioxide.
Special protective equipment for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. Notice	Only persons properly qualified to respond to an emergency involving hazardous substances may respond to a spill according to federal regulations (OSHA 29 CFR 1910.120(a)(v)) and per your company's emergency response plan and guidelines/procedures. See Section 13, Special Instructions for disposal assistance. Outside of the US, only persons properly qualified according to state or local regulations should respond to a spill involving chemicals.
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Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from
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and upwind of spill/leak.

Other Information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Environmental precautions Prevent further leakage or spillage if safe to do so.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. Provide extract ventilation to points where emissions occur. In case of insufficient ventilation, wear suitable respiratory equipment. Remove contaminated clothing and shoes.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Flammability class Class IIIB

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide CAS#: 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m ³ (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m ³ (vacated) SKN* *	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m ³
Sodium metabisulfite CAS#: 7681-57-4	TWA: 5 mg/m ³	(vacated) TWA: 5 mg/m ³	TWA: 5 mg/m ³

Appropriate engineering controls

Engineering Controls Showers
 Eyewash stations
 Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protection	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction.
Hand Protection	Wear suitable gloves.
Eye/face protection	Tight sealing safety goggles.
Skin and body protection	Wear suitable protective clothing.
General Hygiene Considerations	Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained. Do not allow into any sewer, on the ground or into any body of water.
Thermal hazards	None under normal processing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state	Liquid	Color	light brown/yellow
Appearance	aqueous solution	Odor threshold	No data available
Odor	Amine		

Property	Values	Remarks • Method
Molecular weight	No data available	
pH	5.8	
Melting point / freezing point	~ -21 °C / -5.8 °F	
Initial boiling point and boiling range	102 °C / 215.6 °F	
Evaporation rate	0.59 (water = 1)	
Vapor pressure	21.602 mm Hg / 2.88 kPa at 25 °C / 77 °F	
Relative vapor density	0.62	
Specific gravity - VALUE 1	1.065	
Partition coefficient	Not applicable	
Soil Organic Carbon-Water Partition Coefficient	Not applicable	
Autoignition temperature	No data available	
Decomposition temperature	No data available	
Dynamic viscosity	No data available	
Kinematic viscosity	No data available	

Solubility(ies)

Water solubility

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<u>Water solubility classification</u>	<u>Water solubility</u>	<u>Water Solubility Temperature</u>
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

<u>Chemical Name</u>	<u>Solubility classification</u>	<u>Solubility</u>	<u>Solubility Temperature</u>
None reported	No information available	No data available	No information available

Other information

Metal Corrosivity

Steel Corrosion Rate No data available
Aluminum Corrosion Rate No data available

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
N,N-Dimethylformamide	68-12-2	No data available	X
Sodium metabisulfite	7681-57-4	Not applicable	-
Sodium sulfite	7757-83-7	No data available	-

Explosive properties

Upper explosion limit No data available
Lower explosion limit No data available

Flammable properties

Flash point > 100 °C / 212 °F
Method CC (closed cup)

Flammability Limit in Air

Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties

No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Not applicable.

Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact None.
Sensitivity to Static Discharge None.

Possibility of hazardous reactions

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None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products

Nitrogen oxides. Carbon dioxide. Carbon monoxide. Sulfur oxides.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation	May cause sensitization in susceptible persons.
Eye contact	Severely irritating to eyes. Causes serious eye damage. May cause burns. May cause irreversible damage to eyes.
Skin contact	May cause irritation. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause additional affects as listed under "Inhalation".

Symptoms Redness. Burning. May cause blindness. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing. Coughing and/ or wheezing.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

Test data reported below.

Oral Exposure Route

Key literature references and sources for data

Outside testing

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	2800 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	500 mg/kg	None reported	None reported	No information available
Sodium sulfite (1 - 5%)	Rat LD ₅₀	3560 mg/kg	None reported	None reported	GESTIS

CAS#: 7757-83-7					
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Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LD ₅₀	1100 mg/kg	None reported	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LD ₅₀	> 2000 mg/kg	None reported	None reported	LOLI
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LD ₅₀	2000 mg/kg	None reported	None reported	EPA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rat LC ₅₀	> 5.9 mg/L	4 hours	None reported	IUCLID
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat LC ₅₀	> 5.5 mg/L	4 hours	None reported	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Rat LC ₅₀	5.5 mg/L	4 hours	None reported	ECHA

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

0.01% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

The following values are calculated based on chapter 3.1 of the GHS document

ATE_{mix} (oral)	No information available
ATE_{mix} (dermal)	3,941.10 mg/kg
ATE_{mix} (inhalation-dust/mist)	6.25 mg/l
ATE_{mix} (inhalation-vapor)	45.30 mg/l
ATE_{mix} (inhalation-gas)	No information available

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
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N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Standard Draize Test	Human	1000 mg	None reported	Mild skin irritant	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	500 mg	4 hours	Not corrosive or irritating to skin	ECHA

Serious eye damage/irritation

Classification based on data available for ingredients. Causes burns. Risk of serious damage to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Rinse Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Standard Draize Test	Rabbit	107 mg	None reported	Corrosive to eyes	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Standard Draize Test	Rabbit	162 mg	None reported	Mild eye irritant	ECHA

Respiratory or skin sensitization

May cause sensitization by inhalation.

Mixture

No data available.

Ingredient Sensitization Data

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Based on human experience	Human	Confirmed to be a respiratory sensitizer	GESTIS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Based on human experience	Human	Confirmed to be a respiratory sensitizer	OECD 429: Skin Sensitization: Local Lymph Node Assay

STOT - single exposure

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Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

STOT - repeated exposure

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	75 mg/kg	15 days	Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (phosphatases and dehydrogenases) Kidney, Ureter, or Bladder Other changes in urine composition	RTECS

Carcinogenicity

Based on available data, the classification criteria are not met.

Mixture

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide	68-12-2	A3	Group 2A	-	X
Sodium metabisulfite	7681-57-4	-	Group 3	-	-
Sodium sulfite	7757-83-7	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Group 3 - Not classifiable as a human carcinogen Group 2A - Probably Carcinogenic to Humans
NTP (National Toxicology Program)	Does not apply
OSHA	X - Present

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mutation in microorganisms	<i>Salmonella typhimurium</i>	None reported	None reported	Negative	RTECS
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Cytogenetic analysis	Hamster ovary	0.18 mg/L	None reported	Positive test result for mutagenicity	RTECS
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	Cytogenetic analysis	Mouse sperm cells	25 mg/L	None reported	Positive test result for mutagenicity	RTECS

Mixture in vivo Data
 No data available.

Substance in vivo Data
 No data available.

Reproductive toxicity

Classification based on data available for ingredients. Contains a known or suspected reproductive toxin. The table below indicates ingredients above the cut-off threshold considered as relevant which are listed as reproductive toxins.

Mixture
 No data available.

Ingredient Reproductive Toxicity Data
 Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	Rat TD _{Lo}	20000 mg/kg	None reported	Effects on Newborn Stillbirth	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	Mouse TD _{Lo}	50 mg/L	6 hours	Paternal Effects Spermatogenesis (including genetic material, sperm morphology, motility, and count)	RTECS

Aspiration hazard
 Based on available data, the classification criteria are not met.

12. ECOLOGICAL INFORMATION

Ecotoxicity Harmful to aquatic life with long lasting effects.

Unknown aquatic toxicity 0.01% of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Lepomis macrochirus</i>	LC ₅₀	7100 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Salmo gairdneri</i>	LC ₅₀	15 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	96 hours	<i>Leuciscus idus</i>	LC ₅₀	170 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	48 Hours	<i>Daphnia magna</i>	EC ₅₀	7500 mg/L	PEEN
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	48 Hours	<i>Daphnia magna</i>	EC ₅₀	18 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
N,N-Dimethylformamide (20 - 30%) CAS#: 68-12-2	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	> 500 mg/L	PEEN
Sodium metabisulfite (3 - 7%) CAS#: 7681-57-4	96 hours	<i>Scenedesmus subspicatus</i>	EC ₅₀	40 mg/L	IUCLID
Sodium sulfite (1 - 5%) CAS#: 7757-83-7	None reported	<i>Chlamydomonas reinhardtii</i>	EC ₅₀	63 mg/L	OECD 429: Skin Sensitization: Local Lymph Node Assay

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

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Bioaccumulation

There is no data for this product

Mixture

No data available.

Partition coefficient

Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused products

Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging

Do not reuse empty containers.

US EPA Waste Number

Not applicable

Special instructions for disposal

Incinerate material at an E.P.A. approved hazardous waste facility.

14. TRANSPORT INFORMATION

DOT

Not regulated

TDG

Not regulated

IATA

Not regulated

IMDG

Not regulated

Note:

No special precautions necessary.

Additional information

15. REGULATORY INFORMATION

National Inventories

TSCA

Complies

DSL/NDSL

Complies

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

International Inventories

EINECS/ELINCS

Complies

ENCS

Does not comply

IECSC

Complies

KECL

Does not comply

PICCS

Complies

TCSI

Complies

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AICS Complies
NZIoC Complies

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
TCSI - Taiwan Chemical Substances Inventory
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide (CAS #: 68-12-2)	0.1

SARA 311/312 Hazard Categories

Acute health hazard Yes
Chronic Health Hazard Yes
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
N,N-Dimethylformamide 68-12-2	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
N,N-Dimethylformamide (CAS #: 68-12-2)	Carcinogen



WARNING: This product can expose you to chemicals including N,N-Dimethylformamide, which is known to the State of California to cause cancer.
For more information, go to <http://www.P65Warnings.ca.gov>

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product may contain substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X
Sodium metabisulfite 7681-57-4	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sodium metabisulfite	-	21 CFR 182.3766
Sodium sulfite	180.0910	21 CFR 182.3798

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
N,N-Dimethylformamide 68-12-2	Prohibited Substance (LR) Declarable Substance (LR)	0.3 %
Sodium metabisulfite 7681-57-4	Declarable Substance (LR) Prohibited Substance (LR)	None reported
Sodium sulfite 7757-83-7	Declarable Substance (LR) Prohibited Substance (LR)	None reported

NFPA and HMIS Classifications

NFPA	Health hazards - 3	Flammability - 1	Instability - 0	Physical and chemical properties -
HMIS	Health hazards - * - 2	Flammability - 1	Physical hazards - 0	Personal protection - X - 1

Key or legend to abbreviations and acronyms used in the safety data sheet

ACGIH	ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	EPA (Environmental Protection Agency)
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)

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IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
MAC	Maximum Allowable Concentration	Ceiling	Ceiling Limit Value
X	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state regulations.
SKN*	Skin designation	SKN+	Skin sensitization
RSP+	Respiratory sensitization	**	Hazard Designation
C	Carcinogen	R	Reproductive toxicant
M	mutagen		

Prepared By Hach Product Compliance Department

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Revision Note None

Disclaimer

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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End of Safety Data Sheet