

SAFETY DATA SHEET

Issue Date 14-Jun-2021 Revision Date 14-Jun-2021 Version 4 Page 1/14

1. IDENTIFICATION

Product identifier

Product Name Potassium Iodide Reagent

Other means of identification

Product Code(s) 107799

Safety data sheet number M00030

Recommended use of the chemical and restrictions on use

Recommended UseLaboratory reagent. Determination of chlorine, chromate, ozone.

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)

Specific target organ toxicity (repeated exposure)

Category 1

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Danger



Hazard statements

H372 - Causes damage to organs through prolonged or repeated exposure

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Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P314 - Get medical advice/attention if you feel unwell

P501 - Dispose of contents/ container to an approved waste disposal plant

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture

Chemical nature Mixture of inorganic salts.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Potassium iodide (KI)	7681-11-0	90 - 100%	-
Silica, amorphous	7631-86-9	1 - 5%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician.

Skin contact Wash skin with soap and water.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

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Specific hazards arising from the

chemical

No information available.

Hazardous combustion products

This material will not burn.

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.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation. Use personal protective equipment as required. Evacuate

personnel to safe areas.

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

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

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

Methods for cleaning upTake up mechanically, placing in appropriate containers for disposal.

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

Reference to other sectionsSee 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. Ensure adequate

ventilation.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Potassium iodide (KI)	TWA: 0.01 ppm inhalable	NDF	NDF
CAS#: 7681-11-0	fraction and vapor		
Silica, amorphous	NDF	TWA: 50 µg/m³	IDLH: 3000 mg/m ³
CAS#: 7631-86-9		(vacated) TWA: 6 mg/m ³	TWA: 6 mg/m ³
		TWA: 20 mppcf	
		:	

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.

Hand Protection Wear suitable gloves.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protectionNo special protective equipment required.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

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

Appearance powder Color white

Solid

Odor Odorless Odor threshold Not applicable

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight Not applicable

pH 6.7 5% Solution

Melting point/freezing point 680 °C / 1256 °F

Boiling point / boiling range No data available

Evaporation rate Not applicable

Vapor pressure Not applicable

Relative vapor density

No data available

Specific gravity (water = 1 / air = 1) 3.07

Partition Coefficient (n-octanol/water) No data available

Soil Organic Carbon-Water Partition No data available

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Coefficient

Autoignition temperature

Decomposition temperature

No data available

No data available

Not applicable

Kinematic viscosity

Not applicable

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature_
Soluble	> 1000 mg/L	25 °C / 77 °F

Solubility in other solvents

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

Not applicable

Not applicable

Other information

Metal Corrosivity

Steel Corrosion Rate
Aluminum Corrosion Rate

Volatile Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Potassium iodide (KI)	7681-11-0	Not applicable	•
Silica, amorphous	7631-86-9	No data available	_

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data available

Oxidizing properties No data available.

Bulk density No data available

10. STABILITY AND REACTIVITY

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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

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

Potassium oxide. Iodine. Iodine compounds.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

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
Potassium iodide (KI) (90 - 100%) CAS#: 7681-11-0	Rat LD ₅₀	2779 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

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Acute Toxicity Estimations (ATE)

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

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

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

Product Skin Corrosion/Irritation Data

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
Silica, amorphous (1 - 5%) CAS#: 7631-86-9	Standard Draize Test	Rabbit	500 mg	24 hours	Not corrosive or irritating to skin	IUCLID (The International Uniform Chemical Information
						Database)

Serious eye damage/irritation

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

Product Serious Eye Damage/Eye Irritation Data

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
Silica, amorphous (1 - 5%) CAS#: 7631-86-9	Standard Draize Test	Rabbit	25 mg	24 hours	Mild eye irritant	IUCLID (The International Uniform Chemical Information Database)

Respiratory or skin sensitization

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

Product Sensitization Data

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
Potassium iodide (KI)	Patch test	Human	Not confirmed to be a skin sensitizer	ERMA (New Zealands Environmental
(90 - 100%)				Risk Management Authority)

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CAS#: 7681-11-0				
Silica, amorphous	OECD Test No.	Guinea pig	Not confirmed to be a skin sensitizer	IUCLID (The International Uniform
(1 - 5%)	406: Skin			Chemical Information Database)
CAS#: 7631-86-9	Sensitization			

STOT - single exposure

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

Product Specific Target Organ Toxicity Single Exposure DataNo data available.

Ingredient Specific Target Organ Toxicity Single 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
Potassium iodide (KI) (90 - 100%) CAS#: 7681-11-0	Mouse LDLo	1862 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS (Registry of Toxic Effects of Chemical Substances)
Silica, amorphous (1 - 5%) CAS#: 7631-86-9	Rat LC∟₀	5000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Silica, amorphous	Rat	2.19 mg/L	4 hours	Lungs, Thorax, or	RTECS (Registry of Toxic
(1 - 5%)	LC _{Lo}			Respiration	Effects of Chemical
CAS#: 7631-86-9				Dyspnea	Substances)

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

Product Specific Target Organ Toxicity Repeat Dose Data

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
Potassium iodide (KI) (90 - 100%) CAS#: 7681-11-0	Rat NOAEL	0.5 mg/kg	90 days	None reported	ECHA (The European Chemicals Agency)

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Silica, amorphous	Rat	0.154 mg/L	28 days	Lungs, Thorax, or	RTECS (Registry of Toxic
(1 - 5%)	TCLo			Respiration	Effects of Chemical
CAS#: 7631-86-9				Structural or functional change	Substances)
				in trachea or bronchi	

Carcinogenicity

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

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
Potassium iodide (KI)	7681-11-0	-	-	=	=
Silica, amorphous	7631-86-9	-	Group 3	Known	X

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
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of	Does not apply
Labor)	

Germ cell mutagenicity

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

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Potassium iodide (KI) (90 - 100%) CAS#: 7681-11-0	Cytogenetic analysis	Rat ascites tumor	500 mg/kg	None reported	Positive test result for mutagenicity	RTECS (Registry of Toxic Effects of Chemical Substances)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

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

Product Reproductive Toxicity Data

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
Potassium iodide (KI)	Human	2700 mg/kg	39 weeks	Specific Developmental	RTECS (Registry of Toxic
(90 - 100%)	TDLo			Abnormalities	Effects of Chemical
CAS#: 7681-11-0				Endocrine System	Substances)

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Aspiration hazard

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

12. ECOLOGICAL INFORMATION

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

Unknown aquatic toxicity 0 % of the mixture consists of component(s) of unknown hazards to the aquatic

environment.

Product Ecological Data

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Silica, amorphous (1 - 5%)	96 hours	Brachydanio rerio	LC50	5000 mg/L	IUCLID (The International Uniform Chemical Information
CAS#: 7631-86-9					Database)

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Silica, amorphous (1 - 5%)	48 Hours	Ceriodaphnia dubia	EC ₅₀	7600 mg/L	IUCLID (The International Uniform Chemical Information
CAS#: 7631-86-9					Database)

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Silica, amorphou	is 72 Hours	Selenastrum capricornutum	EC ₅₀	440 mg/L	IUCLID (The International
(1 - 5%)					Uniform Chemical Information
CAS#: 7631-86-	9				Database)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

Product Bioaccumulation Data

No data available.

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Partition Coefficient (n-octanol/water) No data available

Mobility

products

No data available **Soil Organic Carbon-Water Partition Coefficient**

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

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 Dilute material with excess water making a weaker than 5% solution. Open cold water tap

completely, slowly pour the material to the drain.

14. TRANSPORT INFORMATION

DOT Not regulated

Not regulated TDG

IATA Not regulated

Not regulated IMDG

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

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** Complies **IECSC** Complies **KECL - Existing substances** Complies **PICCS** Complies Complies TCSI

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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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

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)

CERCI A

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

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Silica, amorphous (CAS #: 7631-86-9)	Carcinogen

WARNING: This product can expose you to chemicals including Silica, amorphous, 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
Silica, amorphous	-	X	X
7631-86-9			

U.S. EPA Label Information

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Chemical name	FIFRA	FDA	
Potassium iodide (KI)	180.0940	21 CFR 184.1634	
Silica, amorphous	180.0930	-	

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

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Not applicable

NFPA and HMIS Classifications

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

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

NIOSH IDLH Immediately Dangerous to Life or Health

ACGIH (American Conference of Governmental Industrial Hygienists)

NDF no data

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TVA (time-weighted average) STEE (Short Term Exposure Limit)	TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
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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

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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©2021

End of Safety Data Sheet

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SAFETY DATA SHEET

Issue Date 17-Dec-2020 Revision Date Version 8.2 Page 1 / 12

31-May-2023

1. IDENTIFICATION

Product identifier

Product Name Starch Indicator Solution

Other means of identification

Product Code(s) 34932

Safety data sheet number M00294

Recommended use of the chemical and restrictions on use

Recommended Use Oxidation-reduction indicator. Water Analysis. Laboratory reagent.

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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

None

Hazard statements

The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Hazards Known

None

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Product Name Starch Indicator Solution

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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 #
Salicylic acid	69-72-7	<1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice No hazards which require special first aid measures. Use first aid treatment according to the

nature of the injury.

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician.

Skin contact Wash skin with soap and water.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Note to physiciansTreat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products No information available.

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

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Product Code(s) 34932 Issue Date 17-Dec-2020

Version 8.2

Revision Date 31-May-2023

Product Name Starch Indicator Solution

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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.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

See Section 12 for additional ecological information. **Environmental precautions**

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

Handle in accordance with good industrial hygiene and safety practice. Advice on safe handling

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Not applicable Flammability class

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

This product, as supplied, does not contain any hazardous materials with occupational **Exposure Guidelines**

exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous

substance at the specific workplace.

Individual protection measures, such as personal protective equipment

No protective equipment is needed under normal use conditions. If exposure limits are Respiratory protection

exceeded or irritation is experienced, ventilation and evacuation may be required.

Hand Protection Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin.

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Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN

374-1:2016.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protectionNo special protective equipment required. Avoid contact with eyes, skin and clothing.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

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 Turbid solution

Color colorless

aqueous solution
Odor
Odorless

Odor threshold No information available

Property Values Remarks • Method

Molecular weight No data available

pH 3.1 @ 20 °C

Melting point/freezing point 0 °C / 32 °F

Initial boiling point and boiling range 100 °C / 212 °F

Evaporation rate 1 (water = 1)

Vapor pressure 24.002 mm Hg / .? kPa at 25 °C / .? °F

Relative vapor density 0.62

Specific gravity - VALUE 1 0.986

Partition Coefficient (n-octanol/water) Not applicable

Soil Organic Carbon-Water Partition

Coefficient

Not applicable

Autoignition temperature No data available

Decomposition temperatureNo information available

Dynamic viscosity $\sim 1 \text{ cP (mPa s)}$ at .? °C / .? °F

Kinematic viscosity ~ .? cSt (mm²/s) at 20 °C / .? °F

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature		
Soluble	> 1000 mg/L	25 °C / .? °F		

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No data available

No data available

Solubility in other solvents

Chemical Name_	Solubility classification	Solubility	Solubility Temperature	
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F	

Other information

Metal Corrosivity

Steel Corrosion Rate
Aluminum Corrosion Rate

Volatile Organic Compounds (VOC) Content

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Salicylic acid	69-72-7	No data available	X

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data available

Oxidizing properties No data available.

Bulk density Not applicable

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

None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

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Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salicylic acid (<1%) CAS#: 69-72-7	Rat LD₅₀	> 2000 mg/kg	None reported	None reported	IUCLID

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Salicylic acid (<1%)	Rat LC ₅₀	> 250 mg/L	4 hours	None reported	RTECS
CAS#: 69-72-7					

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available	
ATEmix (dermal)	No information available	
ATEmix (inhalation-dust/mist)	No information available	
ATEmix (inhalation-vapor)	No information available	

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ATEmix (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
Salicylic acid (<1%) CAS#: 69-72-7	Standard Draize Test	Rabbit	500 mg	24 hours	Mild skin irritant	RTECS

Serious eye damage/irritation

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

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
Salicylic acid (<1%) CAS#: 69-72-7	Standard Draize Test	Rabbit	100 mg	None reported	Corrosive to eyes	RTECS

Respiratory or skin sensitization

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

Mixture

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

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

No data available.

Carcinogenicity

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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
Salicylic acid	69-72-7	-	-	=	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Germ cell mutagenicity

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

Mixture invitro Data

No data available.

Substance invitro Data

No data available.

Mixture invivo Data

No data available.

Substance invivo Data

No data available.

Reproductive toxicity

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

Mixture

No data available.

Ingredient Reproductive Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Salicylic acid	Rat	40 mg/kg	21 days	Maternal Effects	RTECS
(<1%)	TDLo			Parturition	
CAS#: 69-72-7					

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

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

Unknown aquatic toxicity 0% 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

No data available.

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Mixture

No data available.

Partition Coefficient (n-octanol/water)

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

Dilute to 3 to 5 times the volume with cold water. Adjust to a pH between 6 and 9 with an alkali, such as soda ash or sodium bicarbonate. If permitted by regulation. Open cold water tap completely, slowly pour the reacted material to the drain. Allow cold water to run for 5 minutes to completely flush the system. Check with national, local municipal and state authorities and waste contractors for pertinent local information on the disposal of this

article.

14. TRANSPORT INFORMATION

DOT Not regulated

TDG Not regulated

IATA Not regulated

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IMDG Not regulated

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods.

If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

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 Complies **ENCS** Complies **IECSC** Complies **KECL - Existing substances** Complies **PICCS TCSI** Complies **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 does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard

Chronic Health Hazard

Fire hazard

Sudden release of pressure hazard

Reactive Hazard

No

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

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US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

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

U.S. EPA Label Information

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

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Not applicable

NFPA and HMIS Classifications

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

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

ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS (Chemical Carcinogenesis Research Information System)

CDC (Center for Disease Control)

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 (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 (Hazardous Substances Data Bank)

INERIS INERIS (The National Industrial Environment and Risks Institute)
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 (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 (Occupational Safety and Health Administration of the US Department of Labor)

PEEN PEEN (Pan European Ecological Network)

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RTECS RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS SIDS (Screening Information Dataset) for High Volume Chemicals

SYKE
USDA
USDA
USDA
USDC
USDC
The Finnish Environment Institute (SYKE)
USDA (United States Department of Agriculture)
USDC (United States Department of Commerce)

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 17-Dec-2020

Revision Date 31-May-2023

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

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SAFETY DATA SHEET

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1. IDENTIFICATION

Product identifier

Product Name Dissolved Oxygen 3 Powder Pillows

Other means of identification

Product Code(s) 98799

Safety data sheet number M00007

UN/ID no UN2967

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis.
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)

Corrosive to metals	Category 1
Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Chronic aquatic toxicity	Category 3

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

Warning

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Hazard statements

H290 - May be corrosive to metals

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements

P270 - Do not eat, drink or smoke when using this product

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P330 - Rinse mouth

P501 - Dispose of contents/ container to an approved waste disposal plant

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P332 + P313 - If skin irritation occurs: Get medical attention

P362 - Take off contaminated clothing and wash before reuse

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

P337 + P313 - If eye irritation persists: Get medical attention

P273 - Avoid release to the environment

P234 - Keep only in original container

P390 - Absorb spillage to prevent material damage

Other Hazards Known

Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical Family Mixture.

Chemical nature Mixture of inorganic compounds.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Sulfamic acid	5329-14-6	90 - 100%	-

4. FIRST AID MEASURES

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Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact 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. Get medical attention if irritation develops and

persists.

Skin contact Wash off immediately with soap and plenty of water for at least 15 minutes. Get medical

attention if irritation develops and persists.

Ingestion Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth

to an unconscious person. Do NOT induce vomiting. Call a physician.

Self-protection of the first aider Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation.

Indication of any immediate medical attention and special treatment needed

5. FIRE-FIGHTING MEASURES

surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products Sulfur oxides.

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. NoticeOnly 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.

Personal precautions, protective equipment and emergency procedures

Personal precautions Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal

protective equipment as required.

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

Environmental precautions

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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 Pick up and transfer to properly labeled containers.

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. Take off

contaminated clothing and wash before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from

moisture. Store locked up. Keep out of the reach of children. Store away from other

materials.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines This product, as supplied, does not contain any hazardous materials with occupational

exposure limits established by the region specific regulatory bodies

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Respiratory protectionNo protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required. Wear

breathing apparatus if exposed to vapors/dusts/aerosols.

Hand Protection Wear suitable gloves. Impervious gloves. Gloves must be inspected prior to use. The

selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or

nitrile rubber category III according to EN 374-1:2016.

Eye/face protection If splashes are likely to occur, wear safety glasses with side-shields.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing.

General Hygiene Considerations Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this

product. Regular cleaning of equipment, work area and clothing is recommended. Avoid

contact with skin, eyes or clothing.

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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

Solid

Appearance crystalline

Color white

OdorOdorlessOdor thresholdNo data available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight No data available

pH No data available

Melting point/freezing point No data available

Initial boiling point and boiling range No data available

Evaporation rate Not applicable

Vapor pressure Not applicable

Relative vapor density

No data available

Specific gravity - VALUE 1 2.15

Partition Coefficient (n-octanol/water) log K_{ow} ~ 0.1

Soil Organic Carbon-Water Partition

Coefficient
Autoignition temperature

log K_{oc} ~ 0.7

No data available

Decomposition temperature 205 °C / 401 °F

Dynamic viscosity Not applicable

Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

Water solubility classification	Water solubility_	Water Solubility Temperature_	
Soluble	> 1000 mg/L	80 °C / 176 °F	

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F
Methanol	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F
Ethyl alcohol	Slightly soluble	> 0.1 mg/L	25 °C / 77 °F

Other information

Metal Corrosivity

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Classified as corrosive to metal according to GHS criteria

Steel Corrosion Rate Aluminum Corrosion Rate 20.68 mm/yr / 0.81 in/yr 5.38 mm/yr / 0.21 in/yr

Volatile Organic Compounds (VOC) Content

Not applicable

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Sulfamic acid	5329-14-6	Not applicable	-

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point Not applicable

Flammability Limit in Air

Upper flammability limit:No data availableLower flammability limit:No data available

Oxidizing properties No data available.

Bulk density

No data available

10. STABILITY AND REACTIVITY

Reactivity

Corrosive on contact with water. Corrosive to metal.

Chemical stability

Stable under normal conditions.

Explosion data

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

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Oxidizing agent. Strong acids. Strong bases.

Hazardous decomposition products

Nitrogen oxides (NOx). Sulfur oxides. Ammonia. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

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11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation May cause irritation of respiratory tract.

Eye contact Irritating to eyes. Causes serious eye irritation.

Skin contact Causes skin irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if

swallowed.

Symptoms Redness. May cause redness and tearing of the eyes.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Rat LD ₅₀	1450 mg/kg	None reported	None reported	IUCLID

Unknown Acute Toxicity

99.6% 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

ATEmix (oral)	1,456.00 mg/kg
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

Classification based on data available for ingredients. Irritating to skin.

Mixture

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Standard Draize Test	Human	40 mg	5 days	Mild skin irritant	RTECS

Serious eye damage/irritation

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Classification based on data available for ingredients. Irritating to eyes.

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Standard Draize Test	Rabbit	20 mg	None reported	Eye irritant	RTECS

Respiratory or skin sensitization

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

Mixture

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

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

No data available.

	Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
-		type	dose	time		sources for data
Ī	Sulfamic acid	Rat	1000 mg/kg	90 days	No toxicological effects	ECHA
	(90 - 100%)	NOAEL			observed	
Į	CAS#: 5329-14-6					

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
Sulfamic acid	5329-14-6	-	-	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply	
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IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Germ cell mutagenicity

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

Mixture invitro Data

No data available.

Substance invitro Data

No data available.

Mixture invivo Data

No data available.

Substance invivo Data

No data available.

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	Micronucleus test	Mouse	None reported	None reported	Negative test result for mutagenicity	NITE

Reproductive toxicity

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

Mixture

No data available.

Ingredient Reproductive Toxicity Data

No data available.

ſ	Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
L		type	dose	time		sources for data
Γ	Sulfamic acid	Rat	200 mg/kg	None reported	No reproductive or	ECHA
1	(90 - 100%)	NOAEL			developmental toxic effects	
	CAS#: 5329-14-6				observed	

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% of the mixture consists of components(s) of unknown hazards to the aquatic

environment.

<u>Mixture</u>

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

No data available.

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Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	96 hours	Pimephales promelas	LC50	42.2 mg/L	ERMA
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	48 Hours	Daphina magna	EC50	71.6 mg/L	ECHA
Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Sulfamic acid (90 - 100%) CAS#: 5329-14-6	72 Hours	Selenastrum capricornutum	EC50	48 mg/L	ECHA

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

Mixture

No data available.

Partition Coefficient (n-octanol/water) log K_{ow} ~ 0.1

Mobility

Soil Organic Carbon-Water Partition Coefficient log K_∞ ~ 0.7

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 D002

14. TRANSPORT INFORMATION

DOT

UN/ID no UN2967
Proper shipping name Sulphamic Acid

Transport hazard class(es) 8
Subsidiary class NA

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Packing Group III

TDG

UN/ID no UN2967

Proper shipping name Sulphamic Acid

Transport hazard class(es) 8
Subsidiary class NA
Packing Group III

IATA

UN number or ID number UN2967 Proper shipping name UN2967 Sulphamic Acid

Transport hazard class(es) 8
Subsidiary hazard class NA
Packing group III

IMDG

UN number or ID number UN2967

Proper shipping name Sulphamic Acid

Transport hazard class(es) 8
Subsidiary hazard class NA
Packing Group III

Additional information

There is a possibility that this product could be contained in a reagent set or kit composed of various compatible dangerous goods. If the item is not in a reagent set or kit, the classification given above applies.

If the item is part of a reagent set or kit the classification would change to the following:

UN3316 Chemical Kit, Hazard Class 9, Packing Group II or III.

If the item is not regulated, the Chemical Kit classification does not apply.

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 Complies **ENCS IECSC** Complies Complies **KECL - Existing substances** Complies **PICCS** Complies **TCSI 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

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SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

Acute health hazard Yes Chronic Health Hazard Yes No Fire hazard 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

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals

IMERC: Not applicable

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
Sulfamic acid	X	-	-
5329-14-6			

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Sulfamic acid	-	21 CFR 186.1093

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

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Not applicable

NFPA and HMIS Classifications

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

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

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ACGIH (American Conference of Governmental Industrial Hygienists)
ATSDR (Agency for Toxic Substances and Disease Registry)

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 (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 (Hazardous Substances Data Bank)

INERISINERIS (The National Industrial Environment and Risks Institute)IPCS INCHEMIPCS INCHEM (International Programme on Chemical Safety)IUCLIDIUCLID (The International Uniform Chemical Information Database)NITEJapan National Institute of Technology and Evaluation (NITE)

NIH (National Institutes of Health)

NIOSH NIOSH (National Institute for Occupational Safety and Health)
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 (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 (World Health Organization)

<u>Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION</u>

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 13-01-2020

Revision Date 12-Jun-2023

Revision Note None

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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

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SAFETY DATA SHEET

Issue Date 17-Dec-2020 Revision Date Version 1.6 Page 1 / 14

10-Aug-2021

1. IDENTIFICATION

Product identifier

Product Name Sodium Thiosulfate Standard Solution 0.113 N

Other means of identification

Product Code(s) 2267301

Safety data sheet number M01136

Recommended use of the chemical and restrictions on use

Recommended Use Standard solution. Water Analysis.

Uses advised against None. Restrictions on use None.

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 not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

None

Hazard statements

The product contains no substances which at their given concentration, are considered to be hazardous to health

Other Hazards Known

None

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable

Mixture

Chemical name	CAS No	Percent Range	HMRIC #
1,2-Propanediol	57-55-6	20 - 30%	-
Toluene	108-88-3	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

General advice No hazards which require special first aid measures. Use first aid treatment according to

the nature of the injury.

Inhalation Remove to fresh air.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids.

Consult a physician.

Skin contact Wash skin with soap and water.

Ingestion Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

5. FIRE-FIGHTING MEASURES

surrounding environment.

Unsuitable Extinguishing Media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products No information available.

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. NoticeOnly 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

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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.

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

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 Pick up and transfer to properly labeled containers.

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.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Toluene	TWA: 20 ppm	TWA: 200 ppm	IDLH: 500 ppm
CAS#: 108-88-3		(vacated) TWA: 100 ppm	TWA: 100 ppm
		(vacated) TWA: 375 mg/m ³	TWA: 375 mg/m ³
		(vacated) STEL: 150 ppm	STEL: 150 ppm
		(vacated) STEL: 560 mg/m ³	STEL: 560 mg/m ³
		Ceiling: 300 ppm	

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

Ventilation systems. Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Individual protection measures, such as personal protective equipment

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exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure

adequate ventilation.

Hand Protection Wear suitable gloves. Barrier creams may help to protect the exposed areas of skin.

Gloves must be inspected prior to use. The selected protective gloves have to satisfy the specifications of EU Directive 2016/425 and the standard EN 374 derived from it. Chemical resistant gloves made of butyl rubber or nitrile rubber category III according to EN

374-1:2016.

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin and body protection No special protective equipment required. Avoid contact with eyes, skin and clothing.

Wash contaminated clothing before reuse.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

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

Appearance aqueous solution Color colorless

Liquid

Odor Odorless Odor threshold No data available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

Molecular weight No data available

pH 7.9 @ 20 °C

Melting point/freezing point \sim -16 °C / 3.2 °F Boiling point / boiling range \sim 100 °C / 212 °F

Evaporation rate 0.74 (water = 1)

Vapor pressure 21.677 mm Hg / 2.89 kPa at 25 °C / 77 °F

Relative vapor density 0.62

Specific gravity (water = 1 / air = 1) 0.996

Partition Coefficient (n-octanol/water) Not applicable

Soil Organic Carbon-Water Partition

Decomposition temperature

Coefficient

Not applicable

No data available

Autoignition temperature No data available

Dynamic viscosity

No data available

Kinematic viscosity No data available

Solubility(ies)

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Water solubility

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

Solubility in other solvents

Chemical Name_	Solubility classification	<u>Solubility</u>	Solubility Temperature_	
Acid	Soluble	> 1000 mg/L	25 °C / 77 °F	

Other information

Metal Corrosivity

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

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
1,2-Propanediol	57-55-6	No data available	X
Toluene	108-88-3	No data available	X

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:
Lower flammability limit:
No data available
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 oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Product Acute Toxicity Data

No data available.

Ingredient Acute Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat LD₅₀	20000 mg/kg	None reported	None reported	RTECS (Registry of Toxic Effects of Chemical Substances)
Toluene (<0.1%) CAS#: 108-88-3	Rat LD₅₀	636 mg/kg	None reported	None reported	ERMA (New Zealands Environmental Risk Management Authority)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rabbit LD50	20800 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	Rat LC ₅₀	12.5 mg/L	4 hours	None reported	Japan National Institute of Technology and Evaluation (NITE)

Unknown Acute Toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity.

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Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
ATEmix (inhalation-gas)	No information available

Skin corrosion/irritation

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

Product Skin Corrosion/Irritation Data

No data available.

Ingredient Skin Corrosion/Irritation Data

No data available.

	Chemical name	Test method	Species	Reported	Exposure	Results	Key literature
1				dose	time		references and
L							sources for data
Ī	Toluene	Standard Draize	Rabbit	20 mg	24 hours	Skin irritant	RTECS (Registry of
	(<0.1%)	Test					Toxic Effects of
L	CAS#: 108-88-3						Chemical Substances)

Serious eye damage/irritation

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

Product Serious Eye Damage/Eye Irritation Data

No data available.

Ingredient Eye Damage/Eye Irritation Data

No data available.

Chemical name	Test method	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Toluene	Standard Draize	Rabbit	2 mg	24 hours	Eye irritant	RTECS (Registry of
(<0.1%)	Test					Toxic Effects of
CAS#: 108-88-3						Chemical Substances)

Respiratory or skin sensitization

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

Product Sensitization Data

No data available.

Ingredient Sensitization Data

No data available.

STOT - single exposure

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

Product Specific Target Organ Toxicity Single Exposure Data

No data available.

Ingredient Specific Target Organ Toxicity Single Exposure Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene	Human	100 mg/L	None	Behavioral	RTECS (Registry of Toxic

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(<0.1%)	TCLo	reported	Hallucinations, Distorted	Effects of Chemical
CAS#: 108-88-3			perceptions	Substances)
			Decreased locomotor activity	

STOT - repeated exposure

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

Product Specific Target Organ Toxicity Repeat Dose Data

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	Rat TC⊾∘	2.180 mg/L	90 days	Behavioral Food intake Biochemical Enzyme inhibition, induction, or change in blood or tissue levels (dehydrogenases) Endocrine Changes in spleen weight	RTECS (Registry of Toxic Effects of Chemical Substances)
Toluene (<0.1%) CAS#: 108-88-3	Rat TC∟	300 mg/L	730 days	Blood Pigmented or nucleated red blood cells Nutritional and Gross Metabolic Weight loss or decreased weight gain	RTECS (Registry of Toxic Effects of Chemical Substances)

Carcinogenicity

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

Product Carcinogenicity Data

No data available.

Ingredient Carcinogenicity Data

No data available.

Chemical name	CAS No	ACGIH	IARC	NTP	OSHA
1,2-Propanediol	57-55-6	-	=	-	-
Toluene	108-88-3	-	Group 3	-	=

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
IARC (International Agency for Research on Cancer)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA (Occupational Safety and Health Administration of the US Department of	Does not apply
Labor)	

Germ cell mutagenicity

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

Product Germ Cell Mutagenicity invitro Data

No data available.

Ingredient Germ Cell Mutagenicity invitro Data

No data available.

Chemical name	Test	Cell Strain	Reported	Exposure	Results	Key literatu	ıre
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			dose	time		references and
						sources for data
1,2-Propanediol	Cytogenetic	Hamster fibroblast	32000 mg/L	None	Positive test result for	RTECS (Registry
(20 - 30%)	analysis			reported	mutagenicity	of Toxic Effects of
CAS#: 57-55-6						Chemical
						Substances)

Product Germ Cell Mutagenicity invivo Data

No data available.

Ingredient Germ Cell Mutagenicity invivo Data

No data available.

Reproductive toxicity

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

Product Reproductive Toxicity Data

No data available.

Ingredient Reproductive Toxicity Data

No data available.

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	Rat TC∟₀	0.8 mg/L	6 days	Effects on Embryo or Fetus Fetotoxicity (except death e.g. stunted fetus) Effects on	RTECS (Registry of Toxic Effects of Chemical Substances)
CAS#. 100-00-3				Newborn	Substances)

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

Ecotoxicity

Unknown aquatic toxicity

0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Product Ecological Data

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity

No data available.

Ingredient Ecological Data

Aquatic Acute Toxicity

No data available.

Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time		type	dose	sources for data
1,2-Propanediol	96 hours	Pimephales promelas	LC ₅₀	51400 mg/L	IUCLID (The International
(20 - 30%)					Uniform Chemical Information
CAS#: 57-55-6					Database)
Toluene	96 hours	Oncorhynchus mykiss	LC ₅₀	5.8 mg/L	ERMA (New Zealands
(<0.1%)					Environmental Risk Management
CAS#: 108-88-3					Authority)
Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time	-	type	dose	sources for data

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1,2-Propanediol (20 - 30%) CAS#: 57-55-6	48 Hours	Daphnia magna	LC ₅₀	34400 mg/L	IUCLID (The International Uniform Chemical Information Database)
Toluene (<0.1%) CAS#: 108-88-3	48 Hours	Daphnia magna	EC50	11.5 mg/L	ERMA (New Zealands Environmental Risk Management Authority)
Chemical name	Exposure	Species	Endpoint	Reported	Key literature references and
	time		type	dose	sources for data
1,2-Propanediol (20 - 30%) CAS#: 57-55-6	time 96 hours	Selenastrum capricornutum	type EC ₅₀	dose 19000 mg/L	sources for data IUCLID (The International Uniform Chemical Information Database)

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Product Biodegradability Data

No data available.

Product Bioaccumulation Data

No data available.

Partition Coefficient (n-octanol/water) 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.

Do not reuse empty containers. Contaminated packaging

US EPA Waste Number U220

Chemical name	RCRA	RCRA - Basis for	RCRA - D Series	RCRA - U Series
		Listing	Wastes	Wastes
Toluene	U220	Included in waste	-	U220
108-88-3		streams: F005, F024,		
		F025, F039, K015, K036,		
		K037, K149, K151		

Chemical name	RCRA - Halogenated Organic Compounds	RCRA - P Series Wastes	RCRA - F Series Wastes	RCRA - K Series Wastes
Toluene	-	-	Toxic waste	•
108-88-3			waste number F025	
			Waste description:	
			Condensed light ends, spent	
			filters and filter aids, and	

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spent desiccant wastes from
the production of certain
chlorinated aliphatic
hydrocarbons, by free
radical catalyzed processes.
These chlorinated aliphatic
hydrocarbons are those
having carbon chain lengths
ranging from one to and
including five, with varying
amounts and positions of
chlorine substitution.

Special instructions for disposal

Open cold water tap completely, slowly pour the material to the drain. Flush system with plenty of water.

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** Complies **IECSC** Complies **KECL - Existing substances** Complies Complies **PICCS** Complies TCSI Complies **AICS 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

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SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any 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 %
Toluene (CAS #: 108-88-3)	1.0
SARA 311/312 Hazard Categories	
Acute health hazard	No
Chronic Health Hazard	No
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)

Chemical name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Toluene 108-88-3	1000 lb	X	Х	X

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)
Toluene	1000 lb	-	RQ 1000 lb final RQ
108-88-3	1 lb		RQ 454 kg final RQ
			RQ 1 lb final RQ
			RQ 0.454 kg final RQ

U.S. - DEA (Drug Enforcement Administration) List I & List II

Chemical name	U.S DEA (Drug Enforcement	U.S DEA (Drug Enforcement
	Administration) - List I or Precursor	Administration) - List II or Essential
	Chemicals	Chemicals
Toluene	Not Listed	500 gallon Import/Export Volume;
(<0.1%)		1591 kg Import/Export Weight; 50
CAS#: 108-88-3		gallon Domestic Sales Volume; 159 kg
		Domestic Sales Weight

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Toluene (CAS #: 108-88-3)	Developmental

WARNING: This product can expose you to chemicals including Toluene, which is known to the State of California to cause birth defects or other reproductive harm.

For more information, go to http://www.P65Warnings.ca.gov

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations.

Chemical name	New Jersey	Massachusetts	Pennsylvania
1,2-Propanediol	X	-	X

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57-55-6			
Toluene	X	X	X
108-88-3			

U.S. EPA Label Information

Chemical name	FIFRA	FDA
1,2-Propanediol	180.0910	21 CFR 184.1666
	180.0930	

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

Special Comments

None

С

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Toluene	Declarable Substance (FI)	0.1 %
108-88-3		

NFPA and HMIS Classifications

<u> </u>	NFPA	Health hazards - 0	Flammability - 0	Instability - 0	Physical and chemical
					properties -
	HMIS	Health hazards - 0	Flammability - 0	Physical hazards - 0	Personal protection -
			-		X
					- I

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

NIOSH IDLH Immediately Dangerous to Life or Health

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)

NDF no data

Carcinogen

mutagen

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* RSP+	Skin designation Respiratory sensitization	SKN+	Skin sensitization Hazard Designation

R

Reproductive toxicant

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.

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End of Safety Data Sheet

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