

# SAFETY DATA SHEET

Issue Date 13-01-2020 Revision Date 26-Jan-2024 Version 4.7 Page 1 / 14

## 1. IDENTIFICATION

**Product identifier** 

Product Name Sulfamic Acid Powder Pillows

Other means of identification

Product Code(s) 2076266

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. 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 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**Take up mechanically, placing in appropriate containers for disposal.

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

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

### 7. HANDLING AND STORAGE

Precautions for safe handling

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

skin, eyes or clothing. Do not eat, drink or smoke when using this product. 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 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. 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. Barrier creams may help to protect

the exposed areas of skin.

**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

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contact with skin, eyes or clothing.

Local authorities should be advised if significant spillages cannot be contained. Do not allow **Environmental exposure controls** 

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** 

Odor

crystalline

Odorless

Color

white

Odor threshold No data available

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

Molecular weight No data available

No data available рH

Melting point / freezing point No data available

Initial boiling point and boiling range No data available

**Evaporation rate** Not applicable

Vapor pressure Not applicable

No data available Relative vapor density

Specific gravity - VALUE 1 2.15

log Kow ~ 0.1 Partition coefficient

**Soil Organic Carbon-Water Partition** 

Coefficient

log Koc ~ 0.7

No data available **Autoignition temperature** 

205 °C / 401 °F **Decomposition temperature** 

**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

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**Metal Corrosivity** 

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 LD50	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

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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.

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 NOAEL	200 mg/kg	None reported	No reproductive or developmental toxic effects observed	ECHA

#### **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	EC <sub>50</sub>	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 log K<sub>ow</sub> ~ 0.1

**Mobility** 

Soil Organic Carbon-Water Partition Coefficient log K<sub>∞</sub> ~ 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 **ENCS** Complies **IECSC** Complies Complies **KECL** 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
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

## **CWA (Clean Water Act)**

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

# **CERCLA**

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

#### **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.

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)

#### **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

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

ACGIH (American Conference of Governmental Industrial Hygienists) **ACGIH** 

ATSDR (Agency for Toxic Substances and Disease Registry) **ATSDR CCRIS** CCRIS (Chemical Carcinogenesis Research Information System)

CDC CDC (Center for Disease Control)

CEPA (Canadian Environmental Protection Agency) **CEPA** 

CICAD (Concise International Chemical Assessment Documents) CICAD

**ECHA** ECHA (The European Chemicals Agency) EEA (European Environment Agency) EEA **EPA** EPA (Environmental Protection Agency)

**ERMA** ERMA (New Zealands Environmental Risk Management Authority)

Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™ **ECOSARS** 

FDA (Food & Drug Administration) **FDA** 

**GESTIS** GESTIS (Information System on Hazardous Substances of the German Social Accident

Insurance)

**HSDB** HSDB (Hazardous Substances Data Bank)

INERIS (The National Industrial Environment and Risks Institute) **INERIS IPCS INCHEM** IPCS INCHEM (International Programme on Chemical Safety) IUCLID (The International Uniform Chemical Information Database) **IUCLID** Japan National Institute of Technology and Evaluation (NITE) NITE

NIH (National Institutes of Health) NIH

NIOSH NIOSH (National Institute for Occupational Safety and Health) LOLI (List of Lists - An International Chemical Regulatory Database) LOLI

**NDF** no data

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS) **NICNAS** 

NIOSH IDLH Immediately Dangerous to Life or Health

OSHA (Occupational Safety and Health Administration of the US Department of Labor) **OSHA** 

PEEN (Pan European Ecological Network) **PEEN** 

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

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

WHO WHO (World Health Organization)

#### Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

MAC Maximum Allowable Concentration Ceilina Ceiling Limit Value

Listed Vacated Χ 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 R Carcinogen Reproductive toxicant С

mutagen

Hach Product Compliance Department Prepared By

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Revision Note None

**Disclaimer** 

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

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

HACH COMPANY©2023

**End of Safety Data Sheet** 

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# SAFETY DATA SHEET

Issue Date 07-Sep-2016 Revision Date 22-Dec-2017 Version 4.1 Page 1 / 14

### 1. IDENTIFICATION

Product identifier

Product Name Sulfamic Acid Powder Pillows

Other means of identification

Product Code(s) 2076266

Safety data sheet number M00007

UN/ID no UN2967

Recommended use of the chemical and restrictions on use

Recommended Use Laboratory reagent.

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 +1(515)232-2533 - 8am - 4pm CST

## 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
Respiratory sensitization	
Skin sensitization	
Mutagenicity	
Carcinogenicity	
Reproductive toxicity	
Specific target organ toxicity (single exposure)	
Specific target organ toxicity (repeated exposure)	
Chronic aquatic toxicity	Category 3

## Hazards not otherwise classified (HNOC)

Not applicable

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#### Label elements

# Signal word - Warning



#### **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

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

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

P362 - Take off contaminated clothing and wash before reuse

P280 - Wear protective gloves/protective clothing/eye protection/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 advice/attention

P273 - Avoid release to the environment

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

P234 - Keep only in original container

P390 - Absorb spillage to prevent material damage

## Other Information

Harmful to aquatic life

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Substance

Not applicable

#### **Mixture**

Percent ranges are used where confidential product information is applicable.

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

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Chemical nameCAS No.Weight-%Sulfamic acid5329-14-699.6

5329-14-6

## 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. 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

Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the

surrounding environment.

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

Specific hazards arising from the

chemical

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.

# 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

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

protective equipment as required.

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

**Environmental precautions** 

Prevent further leakage or spillage if safe to do so. **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 Pick up and transfer to properly labeled containers.

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

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

# 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.

Not applicable Flammability class

#### 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

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. Impervious gloves.

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

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

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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.

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 Odor Odorless

Color white

Odor threshold No data available

Property Values Remarks • Method

Molecular weight No data available

**pH** No data available

Melting point/freezing point No data available

Boiling point / boiling range No data available

Evaporation rate Not applicable

Vapor pressure Not applicable

Vapor density (air = 1) Not applicable

Specific gravity (water = 1 / air = 1) 2.15

Partition Coefficient (n-octanol/water) log K<sub>ow</sub> ~ 0.1

Soil Organic Carbon-Water Partition log K₀c ~ 0.7

Coefficient

Autoignition temperature 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

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#### **Other Information**

**Metal Corrosivity** 

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	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

Particle Size No information available
Particle Size Distribution No information available

# 10. STABILITY AND REACTIVITY

#### Reactivity

Not applicable.

Chemical stability

**Stability** Stable under normal conditions.

**Explosion data** 

Sensitivity to Mechanical Impact None Sensitivity to Static Discharge None.

Possibility of Hazardous Reactions

Possibility of Hazardous Reactions None under normal processing.

**Hazardous polymerization** 

None under normal processing.

Conditions to avoid

**Conditions to avoid** Exposure to air or moisture over prolonged periods.

Incompatible materials

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**Incompatible materials** Oxidizing agent. Strong acids. Strong bases.

#### **Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

#### 11. TOXICOLOGICAL INFORMATION

#### Information on Likely Routes of Exposure

**Product Information** 

**Inhalation** Specific test data for the substance or mixture is not available. May cause irritation of

respiratory tract.

**Eye contact** Specific test data for the substance or mixture is not available. Irritating to eyes. (based on

components). Causes serious eye irritation.

**Skin contact** Specific test data for the substance or mixture is not available. Causes skin irritation. (based

on components).

**Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause

gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on

components).

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

Aggravated Medical Conditions Skin disorders. Eye disorders.

Toxicologically synergistic

None known.

products

Toxicokinetics, metabolism and No information available.

distribution

**Product Acute Toxicity Data** 

Oral Exposure RouteNo data availableDermal Exposure RouteNo data availableInhalation (Dust/Mist) Exposure RouteNo data availableInhalation (Vapor) Exposure RouteNo data availableInhalation (Gas) Exposure RouteNo data available

#### **Unknown Acute Toxicity**

0% 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

### **Ingredient Acute Toxicity Data**

Oral Exposure Route If available, see data below

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 LD₅o	1450 mg/kg	None reported	None reported	IUCLID (The International Uniform Chemical Information Database)
Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and

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	type	dose	time		sources for data
Sulfamic acid	Guinea pig	1050 mg/kg	None	None reported	IUCLID (The International
(90 - 100%)	LD <sub>50</sub>		reported		Uniform Chemical Information
CAS#: 5329-14-6					Database)

Dermal Exposure RouteIf available, see data belowInhalation (Dust/Mist) Exposure RouteIf available, see data belowInhalation (Vapor) Exposure RouteIf available, see data belowInhalation (Gas) Exposure RouteIf available, see data below

Product Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

Ingredient Specific Target Organ Toxicity Single Exposure Data

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below
Inhalation (Gas) Exposure Route
If available, see data below
If available, see data below

Aspiration toxicity
If available, see data below

Kinematic viscosity

**Product Skin Corrosion/Irritation Data** 

No data available.

# Ingredient Skin Corrosion/Irritation Data

If available, see data below

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 (Registry of Toxic Effects of Chemical Substances)

Not applicable

## **Product Serious Eye Damage/Eye Irritation Data**

No data available.

# Ingredient Eye Damage/Eye Irritation Data

If available, see data below

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

#### **Sensitization Information**

**Product Sensitization Data** 

Skin Sensitization Exposure RouteNo data available.Respiratory Sensitization Exposure RouteNo data available.

**Ingredient Sensitization Data** 

Skin Sensitization Exposure RouteIf available, see data below.Respiratory Sensitization Exposure RouteIf available, see data below.

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#### **Chronic Toxicity Information**

Product Specific Target Organ Toxicity Repeat Dose Data

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available.

No data available.

No data available.

No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below

**Product Carcinogenicity Data** 

Oral Exposure Route

Dermal Exposure Route

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Inhalation (Gas) Exposure Route

No data available

No data available

No data available

No data available

Ingredient Carcinogenicity Data

ſ	Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Ī	Sulfamic acid	5329-14-6	-	-	-	-

#### 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)	·

Oral Exposure Route

Dermal Exposure Route

If available, see data below

### Product Germ Cell Mutagenicity invitro Data

No data available.

#### Ingredient Germ Cell Mutagenicity invitro Data

No data available

#### **Product Germ Cell Mutagenicity** *invivo* **Data**

Oral Exposure RouteNo data availableDermal Exposure RouteNo data availableInhalation (Dust/Mist) Exposure RouteNo data availableInhalation (Vapor) Exposure RouteNo data availableInhalation (Gas) Exposure RouteNo data available

#### Ingredient Germ Cell Mutagenicity invivo Data

Oral Exposure Route
Dermal Exposure Route
If available, see data below
Inhalation (Dust/Mist) Exposure Route
If available, see data below
Inhalation (Vapor) Exposure Route
If available, see data below

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**Product Reproductive Toxicity Data** 

Oral Exposure RouteNo data availableDermal Exposure RouteNo data availableInhalation (Dust/Mist) Exposure RouteNo data availableInhalation (Vapor) Exposure RouteNo data availableInhalation (Gas) Exposure RouteNo data available

**Ingredient Reproductive Toxicity Data** 

Oral Exposure Route
Inhalation (Dust/Mist) Exposure Route
Inhalation (Vapor) Exposure Route
Inhalation (Gas) Exposure Route
If available, see data below
Inhalation (Gas) Exposure Route
If available, see data below
If available, see data below

# 12. ECOLOGICAL INFORMATION

**Ecotoxicity** Harmful to aquatic life with long lasting effects

**Product Ecological Data** 

**Aquatic toxicity** 

FishNo data availableCrustaceaNo data availableAlgaeNo data available

**Ingredient Ecological Data** 

**Aquatic toxicity** 

Fish If available, see ingredient data below

	Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
ſ	Sulfamic acid	96 hours	Pimephales promelas	LC <sub>50</sub>	42.2 mg/L	ERMA (New Zealands
-	(90 - 100%)					Environmental Risk Management
L	CAS#: 5329-14-6					Authority)

Crustacea If available, see ingredient data below
Algae If available, see ingredient data below

**Other Information** 

Persistence and degradability

**Product Biodegradability Data** 

No data available.

**Ingredient Biodegradability Data** 

**Bioaccumulation** 

**Product Bioaccumulation Data** 

No data available.

Partition Coefficient (n-octanol/water) log K<sub>ow</sub> ~ 0.1

**Ingredient Bioaccumulation Data** 

**Mobility** 

Soil Organic Carbon-Water Partition Coefficient log K<sub>∞c</sub> ~ 0.7

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#### Water solubility

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

#### 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

U.S. DOT

UN/ID no UN2967

Proper shipping name Sulphamic Acid

Hazard Class 8
Subsidiary class NA
Packing Group III

**TDG** 

UN/ID no UN2967

Proper shipping name Sulphamic Acid

Hazard Class 8
Subsidiary class NA
Packing Group III

<u>IATA</u>

UN/ID no UN2967
Hazard Class 8
Subsidiary hazard class NA
Packing Group III

<u>IMDG</u>

UN/ID no UN2967
Hazard Class 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.

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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 Complies **IECSC** Complies KECL 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**

#### **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)

#### **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**

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This product does not contain any Proposition 65 chemicals

#### **U.S. 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

**TWA** 

MAC

#### **Additional information**

#### Global Automotive Declarable Substance List (GADSL)

Not applicable

#### NFPA and HMIS Classifications

ſ	NFPA	Health hazards - 2	Flammability - 0	Instability - 0	Physical and Chemical
					Properties -
Ī	HMIS	Health hazards - 2	Flammability - 0	Physical Hazards - 0	Personal protection - X
-			-	-	- See section 8 for more
-					information

#### 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

TWA (time-weighted average)

Maximum Allowable Concentration

MAG	Waximum Allowable Concentration	Centrig	Cenning Limit value
Χ	Listed	Vacated	These values have no official status. The only binding levels of contaminants are those

**STEL** 

Ceiling

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

STEL (Short Term Exposure Limit)

regulations.

Ceiling Limit Value

SKN\* Skin designation SKN+ Skin sensitization
RSP+ Respiratory sensitization \*\* Hazard Designation
C Carcinogen R Reproductive toxicant

M mutagen

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**Prepared By** Hach Product Compliance Department

**Issue Date** 07-Sep-2016

**Revision Date** 22-Dec-2017

**Revision Note** None

### **Disclaimer**

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

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

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**End of Safety Data Sheet** 

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