SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier
Product Name Arsenic Reagent #5

Other means of identification
Product Code(s) 2798199

Safety data sheet number M01157

UN/ID no UN3077

Recommended use of the chemical and restrictions on use
Recommended Use 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 considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Aquatic Acute Toxicity	Category 1
Chronic aquatic toxicity	Category 1

Hazards not otherwise classified (HNOC)
Not applicable

Label elements

Signal word
Warning

Hazard statements
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements
P273 - Avoid release to the environment
P391 - Collect spillage
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 Name	Zinc
Chemical Family	Element.
Formula	Zn
CAS No	7440-66-6
Chemical nature	Element.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No.	Percent Range	HMRIC #
Zinc	7440-66-6	90 - 100%	-
Nickel	7440-02-0	<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

Note to physicians Treat symptomatically.

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 zinc oxide.

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.

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 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.

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
Nickel CAS#: 7440-02-0	TWA: 1.5 mg/m³ inhalable particulate matter	TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³	IDLH: 10 mg/m³ TWA: 0.015 mg/m³

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 protection No 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 Solid
Appearance powder
Color Blue to gray
Odor Odorless
Odor threshold Not applicable

Property	Values	Remarks • Method
Molecular weight	65.40 g/mole	
pH	No data available	
Melting point / freezing point	419 °C / 786.2 °F	
Initial boiling point and boiling range	907 °C / 1664.6 °F	
Evaporation rate	Not applicable	
Vapor pressure	Not applicable	
Relative vapor density	No data available	
Specific gravity - VALUE 1	7.14	
Partition coefficient	No data available	
Soil Organic Carbon-Water Partition Coefficient	No data available	
Autoignition temperature	500 °C / 932 °F	
Decomposition temperature	907.22 °C / 1664.996 °F	
Dynamic viscosity	Not applicable	

Kinematic viscosity Not applicable

Solubility(ies)

Water solubility

Water solubility classification	Water solubility	Water Solubility Temperature
Insoluble	< 0.1 mg/L	25 °C / 77 °F

Solubility in other solvents

Chemical Name	Solubility classification	Solubility	Solubility Temperature
Acids	Soluble	> 1000 mg/L	25 °C / 77 °F
Aqueous alkaline solutions	Soluble	> 1000 mg/L	25 °C / 77 °F

Other information

Corrosive to metals

Steel Corrosion Rate Not applicable
Aluminum Corrosion Rate Not applicable

Volatile Organic Compounds (VOC) Content
This Product is by Weight 100% an Individual Pure Chemical Substance

Chemical name	CAS No.	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Zinc	7440-66-6	Not applicable	-
Nickel	7440-02-0	No data available	-

Explosive properties

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

Flammable properties

Flash point Not applicable

Flammability Limit in Air
Upper flammability limit: No data available
Lower flammability limit: No data available

Oxidizing properties No data available.

Bulk density No data available

10. STABILITY AND REACTIVITY

Reactivity
Not applicable.

Chemical stability
Stable under normal conditions.

Explosion data

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

Possibility of hazardous reactions
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
zinc oxide.

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

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nickel (<0.1%) CAS#: 7440-02-0	Rat	> 9000 mg/kg	None reported	None reported	IUCLID

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

Acute Toxicity Estimations (ATE)
Not applicable

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.

Mixture
If available, see ingredient data below.

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
Zinc (90 - 100%) CAS#: 7440-66-6	Standard Draize Test	Human	0.300 mg	72 hours	Mild skin irritant	RTECS

Serious eye damage/irritation
Based on available data, the classification criteria are not met.

Mixture
If available, see ingredient data below.

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
Zinc (90 - 100%) CAS#: 7440-66-6	OECD Test 405: Acute Eye Corrosion/Irritation	Rabbit	100 mg	24 hours	Mild eye irritant	ECHA

Respiratory or skin sensitization
Based on available data, the classification criteria are not met.

Mixture
No data available.

Ingredient Sensitization Data
Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA
Nickel (<0.1%) CAS#: 7440-02-0	Based on human experience	Human	Confirmed to be a skin sensitizer	Initial Risk Assessment Report

Respiratory Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Nickel (<0.1%) CAS#: 7440-02-0	Based on human experience	Human	Confirmed to be a respiratory sensitizer	Initial Risk Assessment Report

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
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	Mouse TD_{Lo}	5000 mg/kg	None reported	**Kidney, Ureter, or Bladder** **Liver** Hepatitis (hepatocellular necrosis), diffuse **Lungs, Thorax, or Respiration** Respiratory depression	RTECS
Nickel (<0.1%) CAS#: 7440-02-0	Rat LD_{Lo}	200 mg/kg	None reported	**Nutritional and Gross Metabolic** Weight loss or decreased weight gain **Behavioral** Somnolence (general depressed activity)	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	Human TC_{Lo}	0.59 mg/L	4 hours	**Skin and Appendages** Sweating	RTECS
Nickel (<0.1%) CAS#: 7440-02-0	Rat TC_{Lo}	0.5 mg/L	None reported	None reported	Initial Risk Assessment Report

STOT - repeated exposure
Based on available data, the classification criteria are not met.

Mixture
No data available.

Ingredient Specific Target Organ Toxicity Repeat Exposure Data
Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	Human TC_{Lo}	70 mg/kg	70 days	**Biochemical** Other changes	RTECS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data

Zinc (90 - 100%) CAS#: 7440-66-6	Human TC_{Lo}	0.0024 mg/L	1825 days	**Blood** Normocytic anemia, Changes in serum composition (e.g. TP, bilirubin, cholesterol)	RTECS
Nickel (<0.1%) CAS#: 7440-02-0	Rat TC_{Lo}	0.0001 mg/L	1 days	**Liver** Impaired liver function tests **Blood** Changes in serum composition (e.g. TP, bilirubin, cholesterol) Changes in erythrocyte (RBC) count	RTECS

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

Mixture
No data available.

Ingredient Carcinogenicity Data
Test data reported below.

Chemical name	CAS No.	ACGIH	IARC	NTP	OSHA
Zinc	7440-66-6	-	-	-	-
Nickel	7440-02-0	-	Group 2B	Reasonably Anticipated	X

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)	Does not apply
NTP (National Toxicology Program)	Does not apply
OSHA	Does not apply

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	Mouse	12.6 mg/kg	46 weeks	**Gastrointestinal** Tumors	ERMA

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Nickel (<0.1%) CAS#: 7440-02-0	Guinea pig TC_{Lo}	0.015 mg/L	91 weeks	**Lungs, Thorax, or Respiration** Tumors Bronchiogenic carcinoma	RTECS

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

Mixture *invitro* **Data**
No data available.

Substance *invitro* **Data**
Test data reported below.

Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data

Zinc (90 - 100%) CAS#: 7440-66-6	Mammalian gene cell mutation	Mouse lymphoma	12.13 mg/L	3 hours	Negative	ECHA
Nickel (<0.1%) CAS#: 7440-02-0	Morphological transformation	Hamster kidney	400 mg/L	None reported	Positive test result for mutagenicity	RTECS

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 type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	Rat NOAEL	15 mg/kg	7 days	No reproductive or developmental toxic effects observed	ECHA
Nickel (<0.1%) CAS#: 7440-02-0	Rat TD_{Lo}	158 mg/kg	Multiple generations	**Effects on Embryo or Fetus** Fetotoxicity (except death e.g. stunted fetus) Fetal death	RTECS

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

12. ECOLOGICAL INFORMATION

Ecotoxicity Very toxic 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.

Mixture

Aquatic Acute Toxicity
No data available.

Aquatic Chronic Toxicity
No data available.

Substance

Aquatic Acute Toxicity
Test data reported below.

Fish

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data

Zinc (90 - 100%) CAS#: 7440-66-6	96 hours	*Oncorhynchus mykiss*	LC_{50}	0.14 mg/L	GESTIS

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	48 Hours	*Daphnia magna*	EC_{50}	0.07 mg/L	GESTIS

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Zinc (90 - 100%) CAS#: 7440-66-6	96 hours	*Pseudokirchneriella subcapitata*	EC_{50}	0.03 mg/L	GESTIS

Aquatic Chronic Toxicity
No data available.

Persistence and degradability

Mixture
No data available.

Mixture
No data available.

Partition coefficient No data available

Mobility

Soil Organic Carbon-Water Partition Coefficient No data available

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 D001, D003

Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel 7440-02-0	-	Included in waste streams: F006, F039	-	-

Special instructions for disposal 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

UN/ID no	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
DOT Technical Name	Zinc
Transport hazard class(es)	9
Packing Group	III
Emergency Response Guide Number	171

TDG

UN/ID no	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
TDG Technical Name	Zinc
Transport hazard class(es)	9
Packing Group	III

IATA

UN number or ID number	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
IATA Technical Name	Zinc
Transport hazard class(es)	9
Packing group	III
ERG Code	9L
Special Provisions	A3, A803
Description	UN3077, Environmentally hazardous substance, solid, n.o.s. (Zinc), 9, III

IMDG

UN number or ID number	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
IMDG Technical Name	Zinc
Transport hazard class(es)	9
Packing Group	III
EmS-No	F-A, S-F
Special Provisions	274, 335, 966, 967, 969
Description	UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc), 9, III, Marine pollutant

Note: No special precautions necessary.

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
For Inventory status, "complies" means, listed on the inventory, exempted or otherwise complies.

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

KECI	Complies
PICCS	Complies
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 contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical name	SARA 313 - Threshold Values %
Zinc (CAS #: 7440-66-6)	1.0
Nickel (CAS #: 7440-02-0)	0.1

SARA 311/312 Hazard Categories

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

CWA (Clean Water Act)

This product contains the following substances which are regulated 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
Zinc 7440-66-6	-	X	X	-
Nickel 7440-02-0	-	X	X	-

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Zinc 7440-66-6	1000 lb	-	RQ 454 kg final RQ RQ 1000 lb final RQ
Nickel 7440-02-0	100 lb	-	RQ 100 lb final RQ RQ 45.4 kg final RQ

Chemical name	TSCA 12(b)
Zinc (90 - 100%) CAS#: 7440-66-6	Section 6

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical name	California Proposition 65
Nickel (CAS #: 7440-02-0)	Carcinogen

WARNING: This product can expose you to chemicals including Nickel, 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
Zinc 7440-66-6	X	X	X
Nickel 7440-02-0	X	X	X

U.S. EPA Label Information

Chemical name	FIFRA	FDA
Nickel	-	21 CFR 184.1537

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

Special Comments

None

Additional information

Global Automotive Declarable Substance List (GADSL)

Chemical name	Global Automotive Declarable Substance List Classifications	Global Automotive Declarable Substance List Thersholds
Nickel 7440-02-0	Declarable Substance (FI)	0.1 %

NFPA and HMIS Classifications

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

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

ACGIH ACGIH (American Conference of Governmental Industrial Hygienists)

ATSDR	ATSDR (Agency for Toxic Substances and Disease Registry)
CCRIS	CCRIS (Chemical Carcinogenesis Research Information System)
CDC	CDC (Center for Disease Control)
CEPA	CEPA (Canadian Environmental Protection Agency)
CICAD	CICAD (Concise International Chemical Assessment Documents)
ECHA	ECHA (The European Chemicals Agency)
EEA	EEA (European Environment Agency)
EPA	Environmental Protection Agency
ERMA	ERMA (New Zealands Environmental Risk Management Authority)
ECOSARS	Estimation through ECOSARS v1.11 part of the Estimation Programs Interface (EPI) Suite™
FDA	FDA (Food & Drug Administration)
GESTIS	GESTIS (Information System on Hazardous Substances of the German Social Accident Insurance)
HSDB	HSDB (Hazardous Substances Data Bank)
INERIS	INERIS (The National Industrial Environment and Risks Institute)
IPCS INCHEM	IPCS INCHEM (International Programme on Chemical Safety)
IUCLID	IUCLID (The International Uniform Chemical Information Database)
NITE	Japan National Institute of Technology and Evaluation (NITE)
NIH	NIH (National Institutes of Health)
NIOSH	NIOSH (National Institute for Occupational Safety and Health)
LOLI	LOLI (List of Lists - An International Chemical Regulatory Database)
NDF	no data
NICNAS	Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH IDLH	Immediately Dangerous to Life or Health
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PEEN	PEEN (Pan European Ecological Network)
RTECS	RTECS (Registry of Toxic Effects of Chemical Substances)
SIDS	SIDS (Screening Information Dataset) for High Volume Chemicals
SYKE	The Finnish Environment Institute (SYKE)
USDA	USDA (United States Department of Agriculture)
USDC	USDC (United States Department of Commerce)
WHO	WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

Prepared By Hach Product Compliance Department

Issue Date 02-Aug-2019

Revision Date 10-Feb-2025

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.

End of Safety Data Sheet