SAFETY DATA SHEET



This safety data sheet complies with the requirements of: GB/T 17519-2013 and GB/T 16483-2008

Issue Date 17-Aug-2020

Version 1.4

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Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Product NameHexaVer® Hardness TitrantOther means of identification
Product Code(s)74053
M00809

Alternate CAS Number

Not applicable

Other Information Not applicable

Details of the supplier of the safety data sheet

Supplier Address

HACH CHINA Room 502, Floor 5, No. 38, Yinglun Road, China (Shanghai), Pilot Trade Zone Tel: 400-686-8899, 800-840-6026

Manufacturer Address

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

Emergency Telephone - China

400-007-0792 - 24 Hour Service

Recommended use of the chemical and restrictions on use

Recommended Use	Standard solution. Water Analysis.
Uses advised against	Consumer use.
Restrictions on use	For Laboratory Use Only.

Section 2: HAZARDS IDENTIFICATION

Appearance aqueous solution Physical state Liquid.
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Odor Odorless

GHS Classification

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

Label elements

Hazard statements

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

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Physical Hazards

Not applicable.

Health hazards

Immediate Health Effects: Not applicable. Chronic effects: Not applicable.

Environmental hazards

This material is a water pollutant. Keep out of drains, sewers, ditches and waterways. Minimize use of water to prevent environmental contamination. Hazardous to the ozone layer.

Other hazards which do not result in classification

Not applicable

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Family

Mixture

Substance

Not applicable

<u>Mixture</u>

Chemical nature

aqueous solution.

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

Chemical name	Percent Range	Formula	Molecular weight	CAS No.	EC No (EU Index No)
Methanol	<1%	CH₃OH	32.04	67-56-1	200-659-6 (603-001-00-X)
Formaldehyde	<0.1%	CH ₂ O	30.03	50-00-0	200-001-8 (605-001-00-5)

Section 4: FIRST AID MEASURES

<u>Description of necessary first aid r</u> General advice	neasures No hazards which require special first aid measures. Use first aid treatment according to the nature of the injury.
Inhalation	Remove to fresh air.
Skin contact	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
For emergency responders Self-protection of the first aider	No information available.
Most important symptoms/effects	acute and delayed

Most important symptoms/effects, acute and delayedSymptomsNo information available.

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Indication of immediate medical attention and special treatment needed, if necessary Note to physicians Treat symptomatically.

Section 5: FIRE FIGHTING MEASURES

Extinguishing media Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Product itself does not burn.			
Unsuitable Extinguishing Media	No information available			
Specific hazards arising from the ch Specific hazards arising from the chemical	nemical No information available.			
Flammable properties Not classified as flammable according	to GHS criteria			
Explosive properties Not classified according to GHS criteria	a.			
Hazardous combustion products	No information available.			
Specific/special fire-fighting measures	r <u>es</u> No information available.			
Special protective equipment and p Special protective equipment for fire-fighters	recautions for fire-fighters Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.			
Sect	ion 6: ACCIDENTAL RELEASE MEASURES			
Personal precautions, protective eq Personal precautions	uipment and emergency procedures Ensure adequate ventilation.			
For emergency responders	Use personal protective equipment as required.			
Environmental precautions Environmental precautions	See Section 12 for additional ecological information.			
Methods and material for containme	ent 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.			

Section 7: HANDLING AND STORAGE

Preventive measures for safe handling

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

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<u>Precautions for safe handling</u> General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilitiesStorage ConditionsKeep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials Strong oxidizing agents, strong acids, and strong bases.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational exposure limits

Exposure Limits

Chemical name	CAS No.	Percent Range	China	ACGIH TLV	OSHA PEL
Methanol	67-56-1	<1%	TWA: 25 mg/m ³	TWA: 200 ppm	TWA: 200 ppm
			STEL: 50 mg/m ³	STEL: 250 ppm	TWA: 260 mg/m ³
			Skin*	Sk*	(vacated) TWA: 200
					ppm
					(vacated) TWA: 260
					mg/m³
					(vacated) STEL: 250
					ppm
					(vacated) STEL: 325
					mg/m³
					(vacated) SKN*
Formaldehyde	50-00-0	<0.1%	Ceiling: 0.5 mg/m ³	TWA: 0.1 ppm	TWA: 0.75 ppm
			Ceiling	STEL: 0.3 ppm	(vacated) TWA: 3
			Sensitizer+	dermal	ppm
			G1(C**)	sensitizer;respiratory	(vacated) STEL: 10
				sensitizer	ppm
					(vacated) Ceiling: 5
					ppm
					STEL: 2 ppm

Legend	See section 16 for terms and abbreviations		
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, suc Respiratory protection	ch as personal protective equipment		
	exceeded or irritation is experienced, ventilation and evacuation may be required. Ensure adequate ventilation. Wear breathing apparatus if exposed to vapors/dusts/aerosols.		
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.		

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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.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state Appearance Odor	aqueous solution Odorless	Liquid		Color Odor threshold	colorless No informati	on available
Property_			Values			Remarks • Method
Molecular weight	:		No data availat	ble		
рН			5.5			@ 20 °C
Melting point / fre	ezing point		~ 0 °C / 32	°F		
Initial boiling poi	nt and boiling rang	е	~ 100 °C /	212 °F		
Evaporation rate			0.56 (water = 1)		
Vapor pressure			23.777 mm Hg	/ 3.17 kPa at 2	5 °C / 77 °F	
Relative vapor de	ensity		0.62			
Specific gravity -	VALUE 1		0.989			
Partition coefficie	ent		Not applicable			
Soil Organic Carl Coefficient	bon-Water Partitior	n	Not applicable			
Autoignition tem	perature		No data availat	ble		
Decomposition to	emperature		No information	available		
Dynamic viscosit	ty		No data availat	ble		
Kinematic viscos	sity		No data availat	ble		
Solubility(ies)						

Water solubility

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

Solubility in other solvents

Acid	Soluble	> 1000 mg/L	25 °C / 77 °F

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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)
Methanol	67-56-1	100%	Х
Formaldehyde	50-00-0	No data available	Х

Explosive properties

Upper explosion limit Lower explosion limit	No data available No data available
Flammable properties	
Flash point	No data available
Flammability Limit in Air	
Upper flammability limit:	No data available
Lower flammability limit:	No data available
Oxidizing properties	No data available.
Bulk density	Not applicable

Section 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.

<u>Hazardous polymerization</u> None under normal processing.

<u>Conditions to avoid</u> Conditions to avoid

None known based on information supplied.

Incompatible materials

EN / CGHS

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Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

Section 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
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat LD₅o	100 mg/kg	None reported	None reported	GESTIS

Dermal Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rabbit LD ₅₀	270 mg/kg	None reported	None reported	GESTIS

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat LC₅₀	0.578 mg/L	4 hours	None reported	LOLI

Inhalation (Vapor) Exposure Route

Unknown Acute Toxicity

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

0% of the mixture consists of ingredient(s) of unknown acute oral toxicity 0% of the mixture consists of ingredient(s) of unknown acute dermal toxicity 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist) 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor) 0% of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

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)	501.000 mg/L
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

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
Methanol (<1%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method		None reported	20 hours	Not corrosive or irritating to skin	ECHA
Formaldehyde (<0.1%) CAS#: 50-00-0	Standard Draize Test	Human	0.150 mg	72 hours	Corrosive to skin	RTECS

Serious eye damage/eye 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
Methanol (<1%) CAS#: 67-56-1	OECD Test 439: In Vitro Skin Irritation: Reconstructed Human Epidermis (Rhe) Test Method		0.05 mL	24 hours	Not corrosive or irritating to eyes	ECHA
Formaldehyde (<0.1%) CAS#: 50-00-0	Rinse Test	Human	1 ppm	6 minutes	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

Test data reported below.

Skin Sensitization Exposure Route

Chemical name	Test method	Species	Results	Key literature references and sources for data
Methanol (<1%) CAS#: 67-56-1	OECD Test No. 406: Skin Sensitization	Guinea pig	Not confirmed to be a skin sensitizer	ECHA
Formaldehyde (<0.1%) CAS#: 50-00-0	Patch test	Human	Confirmed to be a skin sensitizer	ERMA

Respiratory Sensitization Exposure Route

Chemical nan	ne	Test method	Species	Results	Key literature references and sources for data
Formaldehyd (<0.1%) CAS#: 50-00-		IgE Specific Immune Response Test	Guinea pig	Confirmed to be a respiratory sensitizer	CICAD

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
Methanol (<1%) CAS#: 67-56-1	Human LD∟₀	143 mg/kg	None reported	Lungs, Thorax, or Respiration Dyspnea	RTECS
Formaldehyde (<0.1%) CAS#: 50-00-0	Human LD⊾₀	70 mg/kg	None reported	Gastrointestinal Kidney, Ureter, or Bladder Liver Other changes Ulcerated stomach Other changes	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol (<1%)	Human TC⊾₀	300 mg/L	None reported	Lungs, Thorax, or Respiration	RTECS
CAS#: 67-56-1	. 310			Other changes	

STOT - repeated exposure

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

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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
Methanol (<1%) CAS#: 67-56-1	Monkey	2340 mg/kg	3 days	None reported	ECHA

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Human TC∟₀	0.017 mg/L	0.5 days	Eye Lungs, Thorax, or Respiration Lacrimation Other changes	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
Methanol	67-56-1	-	-	-	-
Formaldehyde	50-00-0	A1	Group 1	Known	Х

Legend

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

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Rat	15 mg/L	78 weeks	Olfaction Tumors	RTECS

Mutagenicity

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

Mixture invitro Data

No data available.

Substance invitro Data

Test data reported below.

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Chemical name	Test	Cell Strain	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (<1%) CAS#: 67-56-1	DNA inhibition	Human lymphocyte	300 mmol/L	None reported	Positive test result for mutagenicity	RTECS

Mixture invivo **Data** No data available.

Substance invivo Data

Test data reported below.

Oral Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Methanol (<1%) CAS#: 67-56-1	DNA damage	Rat	0.405 mg/kg	None reported	Positive test result for mutagenicity	RTECS

Inhalation (Vapor) Exposure Route

Chemical name	Test	Species	Reported dose	Exposure time	Results	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	Micronucleus test	Human	.000985 mg/L	8.5 years	Positive test result for mutagenicity	RTECS

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
Methanol	Rat	4118 mg/kg	10 days	Effects on Embryo or Fetus	RTECS
(<1%)	TDLo		-	Specific Developmental	
CAS#: 67-56-1				Abnormalities	
				Ear	
				Eye	
				Fetotoxicity (except death e.g.	
				stunted fetus)	
				Urogenital System	

Inhalation (Dust/Mist) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Methanol	Rat	0.0026 mg/L	22 days	Effects on Embryo or Fetus	RTECS
(<1%)	TCLo			Fetotoxicity (except death e.g.	
CAS#: 67-56-1				stunted fetus)	

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Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Formaldehyde	Rat	40 mg/L	14 days	Effects on Embryo or Fetus	RTECS
(<0.1%)	TCLO			Fetotoxicity (except death e.g.	
CAS#: 50-00-0				stunted fetus)	

Aspiration hazard

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

Section 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

Aquatic Acute Toxicity No data available.

Aquatic Chronic Toxicity No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Chemi	cal name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
(<0	aldehyde 0.1%) : 50-00-0	96 hours	Morone saxatilis	LC50	6.7 mg/L	PEEN

Crustacea

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Formaldehyde (<0.1%) CAS#: 50-00-0	48 Hours	Daphnia pulex	EC50	5.8 mg/L	PEEN

Aquatic Chronic Toxicity No data available.

Persistence and degradability

Mixture No data available.

Bioaccumulation Material does not bioaccumulate. Mixture No data available.

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Partition coefficient

Not applicable

<u>Mobility</u>

Soil Organic Carbon-Water Partition Coefficient Not applicable

Other adverse effects

No information available

Section 13: DISPOSAL CONSIDERATIONS

Disposal 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.		
Section 14: TRANSPORTATION INFORMATION			
DOT	Not regulated		
IMDG	Not regulated		

Additional information

ΙΑΤΑ

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.

Section 15: REGULATORY INFORMATION

National Regulations

Law of the People's Republic of China on Prevention and Control of Occupational Diseases

Not regulated

Catalogue of occupational hazard factors: Not applicable. Catalogue of occupational diseases: Not applicable.

Chemical name	Category	
Methanol	Chemical hazards	
Formaldehyde	Chemical hazards	

Regulations on the Control over Safety of Hazardous Chemicals

Inventory of hazardous chemicals Not applicable.

Chemical name	Inventory of hazardous chemicals		
Methanol	Listed		
Formaldehyde	Listed		

GB 18218-2009 Identification of major hazard installations for dangerous chemicals Not applicable.

Chemical name	Threshold quantity (T)
Methanol	500
Formaldehyde	5

List of hazardous chemicals under priority management Not applicable.

Chemical name	List of priority hazardous chemicals under work safety management		
Methanol	Listed		

Regulations on Labor Protection in Workplaces Where Toxic Substances Are Used Inventory of highly toxic goods Not applicable.

Regulations for Environmental Management on the First Import of Chemicals and the Import and Export of Toxic Chemicals

List of toxic chemicals severely restricted for import and export in China

Measures for the Environmental Management of New Chemical Substances

IECSC Does not comply IECSC - China Inventory of Existing Chemical Substances

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
KECL	Complies
PICCS	Does not comply
TCSI	Complies
AICS	Does not comply
NZIOC	Complies

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

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

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New 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

International Regulations

The Montreal Protocol on Substances that Deplete the Ozone Layer Not applicable

The Stockholm Convention on Persistent Organic Pollutants Not applicable

The Rotterdam Convention Not applicable

Section 16: OTHER INFORMATION

Prepared By

Hach Product Compliance Department

EN / CGHS

Not applicable.

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Revision Note

Reference Sources for Section 11 See Section 11: TOXICOLOGICAL INFORMATION

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

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

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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.

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End of Safety Data Sheet