

SAFETY DATA SHEET

Issue Date 16-Aug-2018 **Revision Date** 26-Jan-2024 **Version** 1.8 **Page** 1 / 14

1. IDENTIFICATION

Product identifier

Product Name Sulfite Equivalent Standard Solution 5000 mg/l as SO₃

Other means of identification

Product Code(s) 2267410

Safety data sheet number M01148

Recommended use of the chemical and restrictions on use

Recommended Use Water Analysis. Standard solution.

Uses advised against Consumer use.

Restrictions on use For Laboratory Use Only.

Details of the supplier of the safety data sheet

Manufacturer Address

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

Emergency telephone number

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

2. HAZARDS IDENTIFICATION

Classification

Regulatory Status

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

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

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Signal word

None

Hazard statements

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

Other Hazards Known

None

3. COMPOSITION/INFORMATION ON INGREDIENTS

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Substance Not applicable

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Mixture

Chemical Family Mixture.

Chemical nature aqueous solution.

Percent ranges are used where confidential product information is applicable.

Chemical name	CAS No	Percent Range	HMRIC #
Toluene	108-88-3	<0.1%	-

4. FIRST AID MEASURES

Description of first aid measures

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

nature of the injury.

Inhalation Remove to fresh air.

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

Consult a physician.

Skin contact Wash skin with soap and water.

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

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

surrounding environment.

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

Specific hazards arising from the

chemical

No information available.

Hazardous combustion products No information available.

Special protective equipment for

fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

U.S. NoticeOnly persons properly qualified to respond to an emergency involving hazardous

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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 Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder,

sawdust). Take up mechanically, placing in appropriate containers for disposal.

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

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

7. HANDLING AND STORAGE

Precautions for safe handling

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

Conditions for safe storage, including any incompatibilities

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

Flammability class Not applicable

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

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

Appropriate engineering controls

Engineering Controls

Showers

Eyewash stations

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

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substance at the specific workplace.

Individual protection measures, such as personal protective equipment

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

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

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

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

contaminated clothing before reuse.

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

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 Liquid

Appearance aqueous solution Color colorless Odorless Odor Odor threshold Not applicable

Remarks • Method Property Values

Molecular weight No data available

pН 79 @ 20 °C

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

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

Evaporation rate 0.74 (water = 1)

23.702 mm Hg / 3.16 kPa at 25 °C / 77 °F Vapor pressure

Relative vapor density No data available

Specific gravity - VALUE 1 0.996

Partition coefficient Not applicable

Soil Organic Carbon-Water Partition

Decomposition temperature

Coefficient

Not applicable

Autoignition temperature No data available No data available

Dynamic viscosity No data available

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Kinematic viscosity

No data available

Solubility(ies)

Water solubility

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

Solubility in other solvents

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

Other information

Metal Corrosivity

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

Volatile Organic Compounds (VOC) Content

See ingredients information below

Chemical name	CAS No	Volatile organic compounds (VOC) content	CAA (Clean Air Act)
Toluene	108-88-3	No data available	X

Explosive properties

Upper explosion limitNo data availableLower explosion limitNo data available

Flammable properties

Flash point No data available

Flammability Limit in Air

Upper flammability limit:No data availableLower 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.

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Sensitivity to Static Discharge None.

Possibility of hazardous reactions

None under normal processing.

Hazardous polymerization

None under normal processing.

Conditions to avoid

None known based on information supplied.

Incompatible materials

Strong oxidizing agents, strong acids, and strong bases.

Hazardous decomposition products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation No known effect based on information supplied.

Eye contact No known effect based on information supplied.

Skin contact No known effect based on information supplied.

Ingestion No known effect based on information supplied.

Symptoms No information available.

Acute toxicity

Based on available data, the classification criteria are not met

Mixture

No data available.

Ingredient Acute Toxicity Data

Test data reported below.

Oral Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	Rat LD₅o	636 mg/kg	None reported	None reported	ERMA

Inhalation (Dust/Mist) Exposure Route

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	Rat LC ₅₀	12.5 mg/L	4 hours	None reported	NITE

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Unknown Acute Toxicity

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

Acute Toxicity Estimations (ATE)

ATEmix (oral)	No information available
ATEmix (dermal)	No information available
ATEmix (inhalation-dust/mist)	No information available
ATEmix (inhalation-vapor)	No information available
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
Toluene (<0.1%) CAS#: 108-88-3	Standard Draize Test	Rabbit	20 mg	24 hours	Skin irritant	RTECS

Serious eye damage/irritation

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

Mixture

No data available.

Ingredient Eye Damage/Eye Irritation Data

Test data reported below.

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

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Ingredient Specific Target Organ Toxicity Single Exposure Data

Test data reported below.

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint type	Reported dose	Exposure time	Toxicological effects	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	Human TC∟₀	100 mg/L	None reported	Behavioral Hallucinations, Distorted perceptions Decreased locomotor activity	RTECS

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.

Inhalation (Vapor) Exposure Route

Chemical name	Endpoint	Reported	Exposure	Toxicological effects	Key literature references and
	type	dose	time		sources for data
Toluene	Rat	300 mg/L	730 days	Blood	RTECS
(<0.1%)	TCLo		_	Pigmented or nucleated red	
CAS#: 108-88-3				blood cells	
				Nutritional and Gross	
				Metabolic	
				Weight loss or decreased weight	
				gain	

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
Toluene	108-88-3	-	Group 3	-	-

Legend

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

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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.

Inhalation (Dust/Mist) Exposure Route

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

Aspiration hazard

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

12. ECOLOGICAL INFORMATION

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

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

environment.

Mixture

Aquatic Acute Toxicity

No data available.

Aquatic Chronic Toxicity

No data available.

Substance

Aquatic Acute Toxicity

Test data reported below.

Fish

Γ	Chemical name	Exposure	Species	Endpoint	Reported dose	Key literature references and
L		time		type		sources for data
	Toluene (<0.1%) CAS#: 108-88-3	96 hours	Oncorhynchus mykiss	LC50	5.8 mg/L	ERMA

Crustacea

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

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Toluene	48 Hours	Daphnia magna	EC50	11.5 mg/L	ERMA
(<0.1%)					
CAS#: 108-88-3					

Algae

Chemical name	Exposure time	Species	Endpoint type	Reported dose	Key literature references and sources for data
Toluene (<0.1%) CAS#: 108-88-3	72 Hours	Selenastrum capricornutum	EC50	12.5 mg/L	ERMA

Aquatic Chronic Toxicity

No data available.

Persistence and degradability

Mixture

No data available.

Bioaccumulation

MATERIAL DOES NOT BIOACCUMULATE

Mixture

No data available.

Partition coefficient Not applicable

Mobility

Soil Organic Carbon-Water Partition Coefficient

Not applicable

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from residues/unused

products

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

environmental legislation.

Contaminated packaging Do not reuse empty containers.

US EPA Waste Number U220

	Chemical name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Ī	Toluene	U220	Included in waste	-	U220
1	108-88-3		streams: F005, F024,		
			F025, F039, K015, K036,		
			K037, K149, K151		

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

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

Special instructions for disposal Open cold water tap completely, slowly pour the material to the drain.

14. TRANSPORT INFORMATION

DOT Not regulated

Not regulated TDG

Not regulated IATA

IMDG Not regulated

No special precautions necessary. Note:

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

Complies **TSCA DSL/NDSL** Complies

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

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

International Inventories

EINECS/ELINCS Complies Complies **ENCS IECSC** Complies Complies **KECL PICCS** Complies **TCSI** Complies **AICS** Complies Complies **NZIoC**

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

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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

Chemical name	SARA 313 - Threshold Values %
Toluene (CAS #: 108-88-3)	1.0
SARA 311/312 Hazard Categories	
Acute health hazard	No
Chronic Health Hazard	No
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

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

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

CERCLA

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

Chemical name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Toluene	1000 lb	-	RQ 1000 lb final RQ
108-88-3	1 lb		RQ 454 kg final RQ
			RQ 1 lb final RQ
			RQ 0.454 kg final RQ

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

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

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

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

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

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

IMERC: Not applicable

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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
Toluene	X	X	X
108-88-3			

U.S. EPA Label Information

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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
Toluene 108-88-3	Declarable Substance (FI)	0.1 %

NFPA and HMIS Classifications

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

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

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

CDC (Center for Disease Control)

CEPA (Canadian Environmental Protection Agency)

CICAD CICAD (Concise International Chemical Assessment Documents)

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

ERMA (New Zealands Environmental Risk Management Authority)

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

FDA FDA (Food & Drug Administration)

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

Insurance)

HSDB (Hazardous Substances Data Bank)

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

NIH 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)

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NIOSH IDLH 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

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

WHO (World Health Organization)

Legend - Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

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

MAC Maximum Allowable Concentration Ceiling Ceiling Limit Value

X Listed Vacated These values have no official status. The only

binding levels of contaminants are those listed in the final OSHA PEL. These lists are for reference purposes only. Please note that some reference state regulations of these "liberated" exposure limits in their state

regulations.

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

M mutagen

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Revision Note None

Disclaimer

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

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

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End of Safety Data Sheet

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