



SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA HCS 2024 and Canada Hazardous Products Act (HPA) and Hazardous Products
Regulation (HPR), as amended

Issuing Date 03-Dec-2024

Revision date 03-Dec-2024

Revision Number 1

1. Identification

Product identifier

Product Name Valve Regulated Lead-Acid Battery

Other means of identification

Product Code(s) Product Family: GXT5 Series, PSI5 Series, EDGE Series, APS Series, GXTRT Series, PSA5 Series, itON Series

UN number or ID number UN2800

Synonyms VRLA

Recommended use of the chemical and restrictions on use

Recommended use Uninterruptible Power Supply (UPS)

Restrictions on use None

Details of the supplier of the safety data sheet

Manufacturer Address

Vertiv Group Corporation
505 N Cleveland Ave
Westerville, OH 43082

Emergency telephone number

Emergency telephone 1-614-888-0246

2. Hazard(s) identification

Classification of the substance or mixture

As supplied, this product is an article. This product contains a battery. No exposure to hazardous chemicals is expected to occur during intended product use. Misuse of the product may result in exposure to hazardous chemicals. The information below relates to the mixture of components contained within the battery.

Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1
Carcinogenicity	Category 1A
Reproductive toxicity	Category 1A
Effects on or via lactation	Yes

Label elements

Danger

Hazard statements

Fatal if inhaled.
Causes severe skin burns and eye damage.

May cause cancer.
May damage fertility or the unborn child.
May cause harm to breast-fed children.
Effects on or via lactation.

**Precautionary Statements - Prevention**

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves, protective clothing, eye protection and face protection.
Do not breathe dust, fume, gas, mist, vapors and spray.
Avoid contact during pregnancy and while nursing.
Wash face, hands and any exposed skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear respiratory protection.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.
Specific treatment is urgent (see supplemental first aid instructions on this label).
Immediately call a POISON CENTER or doctor.

Eyes

Immediately call a POISON CENTER or doctor.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
Wash contaminated clothing before reuse.

Inhalation

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor.

Ingestion

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.
Store in a well-ventilated place. Keep container tightly closed.

Precautionary Statements - Disposal

Dispose of contents and container to an approved waste disposal plant.

Unknown acute toxicity

81.8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Hazards classified under paragraph (d)(1)(ii) of 1910.1200

No information available.

Other information

May be harmful if swallowed. Very toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients**Substance**

Not applicable.

Mixture

Synonyms VRLA

Chemical name	CAS No.	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Lead	7439-92-1	65-80	-	-
Sulfuric acid	7664-93-9	14-20	-	-
Glass fiber	65997-17-3	1-2	-	-

4. First-aid measures**Description of first aid measures**

General advice	Immediate medical attention is required. Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
Inhalation	If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Remove to fresh air. Do not breathe dust. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical attention.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Get immediate medical attention.
Self-protection of the first aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Do not breathe dust. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms	Coughing and/ or wheezing. Difficulty in breathing. Burning sensation.
Effects of Exposure	May cause cancer. May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility.

Indication of any immediate medical attention and special treatment needed

Note to physicians	Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure.
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5. Fire-fighting measures

Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	No information available.
Specific hazards arising from the chemical	The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors.
Explosion data	
Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.
Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid generation of dust. Do not breathe dust. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Attention! Corrosive material.
Other information	Refer to protective measures listed in Sections 7 and 8.

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.

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 breathe dust. Avoid generation of dust. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Remove contaminated clothing and shoes.
General hygiene considerations	Avoid contact with skin, eyes or clothing. Do not breathe dust. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children. Protect from moisture. Store away from other materials.
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8. Exposure controls/personal protection

Control parameters**Exposure Limits**

Chemical name	ACGIH TLV	OSHA PEL	NIOSH	
Lead 7439-92-1	TWA: 0.05 mg/m ³	TWA: 50 µg/m ³	IDLH: 100 mg/m ³ TWA: 0.050 mg/m ³	
Sulfuric acid 7664-93-9	TWA: 0.2 mg/m ³ thoracic particulate matter	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 15 mg/m ³ TWA: 1 mg/m ³	
Glass fiber 65997-17-3	TWA: 1 fiber/cm ³ respirable fibers: length >5 µm, aspect ratio >=3:1, as determined by the membrane filter method at 400-450X magnification [4-mm objective], using phase-contrast illumination TWA: 5 mg/m ³ inhalable particulate matter	-	-	
Chemical name	Alberta	British Columbia	Ontario	Quebec
Lead 7439-92-1	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³ Adverse reproductive effect	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³
Sulfuric acid 7664-93-9	TWA: 1 mg/m ³ STEL: 3 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³ STEL: 3 mg/m ³
Glass fiber 65997-17-3	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³	TWA: 1 fibre/cm ³ TWA: 5 mg/m ³

Chemical name	Manitoba	New Brunswick	Newfoundland and Labrador	Nova Scotia
Lead	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³
Sulfuric acid	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³

Chemical name	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Lead	TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³ Designated substance	TWA: 0.05 mg/m ³	TWA: 0.05 mg/m ³ STEL: 0.15 mg/m ³ Designated Chemical Substance	TWA: 0.15 mg/m ³ STEL: 0.45 mg/m ³
Sulfuric acid	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³ Designated substance	TWA: 0.2 mg/m ³	TWA: 0.2 mg/m ³ STEL: 0.6 mg/m ³ Designated Chemical Substance	TWA: 1 mg/m ³ STEL: 1 mg/m ³
Glass fiber				TWA: 30 mppcf TWA: 10 mg/m ³

Biological occupational exposure limits

Chemical name	ACGIH
Lead 7439-92-1	200 µg/L - blood (Lead) - not critical

Appropriate engineering controls

Engineering controls	Showers Eyewash stations Ventilation systems.
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Individual protection measures, such as personal protective equipment

Eye/face protection	Tight sealing safety goggles. Face protection shield. None required for end-use. If contents are released:
Hand protection	Wear suitable gloves. Impervious gloves. None required for end-use. If contents are released:
Skin and body protection	Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. None required for end-use. If contents are released:
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Appearance	Solid containing liquid
Physical state	Solid
Color	Varies
Odor (includes odor threshold)	Characteristic

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No data available
Boiling point (or initial boiling point or boiling range)		No data available
Flammability		No data available
Flammability Limit in Air		
Upper flammability or explosive limits		No data available
Lower flammability or explosive limits		No data available
Flash point		No data available
Autoignition temperature		No data available
Decomposition temperature		No data available
SADT (°C)		No data available
pH		No data available
pH (as aqueous solution)		No data available
Kinematic viscosity		No data available
Dynamic viscosity		No data available
Solubility		No data available
Water solubility		No data available
Partition coefficient n-octanol/water (log value)		No data available
Vapor pressure (includes evaporation rate)		No data available
Evaporation rate		No data available
Density and/or relative density		No data available
Bulk density		No data available
Liquid Density		No data available
Relative vapor density		No data available
Particle characteristics		
Particle Size		No data available
Particle Size Distribution		No data available
Other information		
Molecular weight	No information available	
VOC content	0.0%	
Softening point	No information available	

Information with regard to physical hazard classes**Explosives**

Explosive properties	No information available
Oxidizing properties	No information available

10. Stability and reactivity

Reactivity	None under normal use conditions.
Chemical stability	<p>For the lead component: When oxygen is present, it will be eroded by pure water and the weak organic acid. At normal temperature, it will be eroded by fluorine or chlorine.</p> <p>For the sulfuric component: At first, vapor is generated by heating and generate sulfuric acid vapors if continue to heat. Rapid contact with water might generate a large amount of heat, and sometimes the acid is scattered. Dilute sulfuric acid, which is generated by diluting with water, generates hydrogen gas by the corrosion of various metals and may cause flash explosion by mixing with air.</p>
Possibility of hazardous reactions	<p>Lead component: React violently with combustible materials and organic matter (sulfuric acid, hydrogen peroxide, phosphoric acid), and it may cause risk of fire.</p> <p>Sulfuric acid component: Reacts violently with bases and is corrosive to most common metals forming a flammable/explosive gas (hydrogen).</p>
Conditions to avoid	Excessive heat. Exposure to air or moisture over prolonged periods.
Incompatible materials	Acids, Bases, Oxidizing agent.
Hazardous decomposition products	None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	Specific test data for the substance or mixture is not available. Fatal if inhaled. (based on components). Corrosive by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal.
Eye contact	Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.
Skin contact	Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.
Ingestion	Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Coughing and/ or wheezing. Difficulty in breathing. Redness. Burning. May cause blindness.

Acute toxicity Fatal if inhaled.

Numerical measures of toxicity

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

ATEmix (oral) 2,601.80 mg/kg
ATEmix (inhalation-dust/mist) 0.359 mg/l

Unknown acute toxicity

81.8 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Sulfuric acid	= 2140 mg/kg (Rat)	-	= 0.375 mg/L (Rat) 4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes serious eye damage. Causes burns.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Lead 7439-92-1	A3	Group 2A	Reasonably Anticipated	X
Sulfuric acid 7664-93-9	A2	Group 1	Known	X
Glass fiber 65997-17-3	-	Group 3	-	-

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 1 - Carcinogenic to Humans

Group 2A - Probably Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

NTP (National Toxicology Program)

Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

Occupational Safety and Health Administration of the US Department of Labor

X - Present

Reproductive toxicity Contains a known or suspected reproductive toxin. Classification based on data available for ingredients. May damage fertility or the unborn child. May cause harm to breast-fed

children.

STOT - single exposure No information available.**STOT - repeated exposure** No information available.**Aspiration hazard** No information available.**12. Ecological information****Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Lead 7439-92-1	-	LC50: =0.44mg/L (96h, Cyprinus carpio) LC50: =1.17mg/L (96h, Oncorhynchus mykiss) LC50: =1.32mg/L (96h, Oncorhynchus mykiss)	-	EC50: =600µg/L (48h, water flea)
Sulfuric acid 7664-93-9	-	LC50: >500mg/L (96h, Brachydanio rerio)	-	-

Persistence and degradability No information available.**Bioaccumulation** No information available.**Other adverse effects** No information available.**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.**California waste information** This product contains one or more substances that are listed with the State of California as a hazardous waste.**14. Transport information****DOT** In accordance with DOT

49 CFR 173.159a

Subject batteries are classified as Non-spillable and have been tested and meet the non-spillable criteria listed in CFR 49 173.159 (f) and 173.159a (d) (1)

UN number or ID number
Proper shipping name
Transport hazard class(es)
DOT Marine Pollutant
Description

UN2800
 BATTERIES, WET, NON-SPILLABLE
 8
 Not applicable
 UN2800, BATTERIES, WET, NON-SPILLABLE, 8

TDG

UN number or ID number UN2800
Proper shipping name Batteries, wet, non-spillable
Transport hazard class(es) 8
Description UN2800, Batteries, wet, non-spillable, 8

IATA

UN number or ID number UN2800
UN proper shipping name Batteries, wet, non-spillable
Transport hazard class(es) 8
Description UN2800, Batteries, wet, non-spillable, 8
Special Provisions A48, A67, A164, A183
ERG Code 8L

IMDG

UN number or ID number UN2800
UN proper shipping name Batteries, wet, non-spillable
Transport hazard class(es) 8
Marine pollutant Not applicable
Description UN2800, Batteries, wet, non-spillable, 8
Special Provisions 238 F-A S-B

15. Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****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

International Inventories

Contact supplier for inventory compliance status

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 %
Sulfuric acid - 7664-93-9	1.0

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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
Lead 7439-92-1	-	X	X	-
Sulfuric acid 7664-93-9	1000 lb	-	-	X

CAA (Clean Air Act)

This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

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	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
Lead 7439-92-1	10 lb	-	RQ 10 lb final RQ RQ 4.54 kg final RQ
Sulfuric acid 7664-93-9	1000 lb	1000 lb	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
Lead - 7439-92-1	Carcinogen Developmental Female Reproductive Male Reproductive
Sulfuric acid - 7664-93-9	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Lead 7439-92-1	X	X	X
Sulfuric acid 7664-93-9	X	X	X
Tin 7440-31-5	X	X	X
Calcium 7440-70-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 4 Flammability 0 Instability 0 Special hazards -
HMIS Health hazards 4* Flammability 0 Physical hazards 0 Personal protection X
 Chronic Hazard Star Legend * = Chronic Health Hazard

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

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate

ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	Environmental Protection Agency
GHS	Globally Harmonized System
HMIS	Hazardous Materials Identification System
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean Existing Chemicals Inventory
LC50	Lethal Concentration to 50% of a test population
LD50	Lethal Dose to 50% of a test population (Median Lethal Dose)
MARPOL	International Convention for the Prevention of Pollution from Ships
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic
PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average

UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
Sen+	Sensitizer
Sk*	Skin designation
**	Hazard Designation

Key literature references and sources for data used to compile the SDS

U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
Environmental Protection Agency
Acute Exposure Guideline Level(s) (AEGl(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set
World Health Organization

Issuing Date 03-Dec-2024

Revision date 03-Dec-2024

Revision Note Initial Release.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet