

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 11-Mar-2025 Revision date 11-Mar-2025 Revision Number 1

1. Identification

Product identifier

Product Name Valve Regulated Lead-Acid Battery

Other means of identification

Product Code(s) PSI5 Series, Edge Series, Vertiv™ PowerUPS 200 Essential Line Interactive Series,

Vertiv™ PowerUPS 200 Line Interactive Series, Vertiv™ PowerUPS 100 Standby Series,

Vertiv™ PowerUPS 100 Standby Lithium 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 - Oral	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
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
Specific target organ toxicity (repeated exposure)	Category 2

Label elements

Danger

Hazard statements

Harmful if swallowed.

Harmful 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.

May cause damage to organs through prolonged or repeated exposure.



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.

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.

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention.

Immediately call a POISON CENTER or doctor.

Specific treatment (see supplemental first aid instructions on this label).

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.

Call a POISON CENTER or doctor if you feel unwell.

Immediately call a POISON CENTER or doctor.

Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

Rinse mouth.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Precautionary Statements - Storage

Store locked up.

Precautionary Statements - Disposal

Dispose of contents and container in accordance with local, regional, national, and international regulations as applicable.

Unknown acute toxicity

79 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

89.2 % 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

Very toxic to aquatic life with long lasting effects.

3. Composition/information on ingredients

Substance

Not applicable.

<u>Mixture</u>

Synonyms VRLA

Chemical name	CAS No.	Weight-%	Information Review	Date HMIRA filed and date exemption granted (if applicable)
Lead sulfate	7446-14-2	70-80	•	-
Lead peroxide	1309-60-0	70-80	•	-
Lead	7439-92-1	70-80	-	-
Sulfuric acid	7664-93-9	14-20	•	-
Glass fiber	65997-17-3	0-5	-	-
Tetrabromobisphenol A	79-94-7	<2.3	-	-

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required. IF exposed or concerned: Get medical advice/attention.

Inhalation Remove to fresh air. 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. 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 contactWash 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. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as

required. See section 8 for more information.

Most important symptoms and effects, both acute and delayed

Symptoms Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

Effects of Exposure May cause cancer. May cause adverse reproductive effects - such as birth defect,

miscarriages, or infertility. May cause damage to organs through prolonged or repeated

exposure.

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

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pressure may occur with moist rales, frothy sputum, and high pulse pressure.

5. Fire-fighting measures

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 Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate

ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not

breathe dust.

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. 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. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid generation of dust.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do

not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. 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. Avoid breathing dust/fume/gas/mist/vapors/spray.

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Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

8. Exposure controls/personal protection

Control Parameters

Exposure Limits

ACGIH TLV		OSH	A PEL		NIOSH
TWA: 0.05 mg/m ³	Pb	TWA: 50	μg/m³ Pb	TV	/A: 0.050 mg/m ³ ; Pb
				10	DLH: 100 mg/m³ Pb
TWA: 0.05 mg/m ³	Pb	TWA: 50	μg/m³ Pb	TV	/A: 0.050 mg/m ³ ; Pb
				10	DLH: 100 mg/m³ Pb
TWA: 0.05 mg/m	N ³	TWA: 5	50 μg/m ³		ΓWA: 0.050 mg/m ³ ;
					IDLH: 100 mg/m ³
TWA: 0.2 mg/m³ the	oracic	TWA:	1 mg/m ³		TWA: 1 mg/m ³ ;
particulate matte	er	(vacated) T	WA: 1 mg/m ³		IDLH: 15 mg/m ³
TWA: 1 fiber/cm3 res	spirable		-		-
fibers: length >5 µm, as	pect ratio				
>=3:1, as determined	by the				
membrane filter met	hod at				
400-450X magnification	n [4-mm				
objective], using phase	-contrast				
illumination					
ı					
					Quebec
TWA: 0.05 mg/m ³ ;		•	TWA: 0.05 mg	g/m³;	TWAEV: 0.05 mg/m ³ ;
	Adverse	•			
TWA: 0.05 mg/m ³ ;		0.05 mg/m ³ ;	TWA: 0.05 mg	¹/m³:	TWAEV: 0.05 mg/m ³ ;
1			l `	, ,	1 117 12 11 0100 mg/m ,
l i	Adverse	e reproductive		, ,	, , , , , , , , , , , , , , , , , , ,
		effect			0
TWA: 0.05 mg/m³;	TWA:	effect 0.05 mg/m³;	TWA: 0.05 mg		TWAEV: 0.05 mg/m³;
TWA: 0.05 mg/m³;	TWA:	effect 0.05 mg/m³; e reproductive	TWA: 0.05 mg		0
	TWA: Adverse	effect 0.05 mg/m³; e reproductive effect		g/m³;	TWAEV: 0.05 mg/m³;
TWA: 1 mg/m³;	TWA: Adverse	effect 0.05 mg/m³; e reproductive effect 0.2 mg/m³;	TWA: 0.2 mg	g/m³; /m³;	TWAEV: 0.05 mg/m³; TWAEV: 1 mg/m³;
	TWA: Adverse	effect 0.05 mg/m³; e reproductive effect	TWA: 0.2 mg thoracic partic	g/m³; /m³;	TWAEV: 0.05 mg/m³;
TWA: 1 mg/m³; STEL: 3 mg/m³;	TWA: Adverse TWA: t	effect 0.05 mg/m³; e reproductive effect 0.2 mg/m³; horacic	TWA: 0.2 mg thoracic partic matter	g/m³; /m³; ulate	TWAEV: 0.05 mg/m³; TWAEV: 1 mg/m³; STEV: 3 mg/m³;
TWA: 1 mg/m³;	TWA: Adverse TWA: t	effect 0.05 mg/m³; e reproductive effect 0.2 mg/m³;	TWA: 0.2 mg thoracic partic	g/m³; /m³; ulate	TWAEV: 0.05 mg/m³; TWAEV: 1 mg/m³; STEV: 3 mg/m³; TWAEV: 1 fibre/cm3;
TWA: 1 mg/m³; STEL: 3 mg/m³;	TWA: Adverse TWA: t	effect 0.05 mg/m³; e reproductive effect 0.2 mg/m³; horacic	TWA: 0.2 mg thoracic partic matter	g/m³; /m³; ulate	TWAEV: 0.05 mg/m³; TWAEV: 1 mg/m³; STEV: 3 mg/m³; TWAEV: 1 fibre/cm3; respirable
TWA: 1 mg/m³; STEL: 3 mg/m³;	TWA: Adverse TWA: t	effect 0.05 mg/m³; e reproductive effect 0.2 mg/m³; horacic	TWA: 0.2 mg thoracic partic matter	g/m³; /m³; ulate	TWAEV: 0.05 mg/m³; TWAEV: 1 mg/m³; STEV: 3 mg/m³; TWAEV: 1 fibre/cm3;
	TWA: 0.05 mg/m³ TWA: 0.05 mg/m³ TWA: 0.05 mg/m³ TWA: 0.05 mg/m³ th particulate matter that the particulate matt	TWA: 0.05 mg/m³ Pb TWA: 0.05 mg/m³ Pb TWA: 0.05 mg/m³ Pb TWA: 0.05 mg/m³ TWA: 0.2 mg/m³ thoracic particulate matter TWA: 1 fiber/cm3 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/m³ inhalable particulate matter Alberta Britis TWA: 0.05 mg/m³; TWA: Adverse	TWA: 0.05 mg/m³ Pb TWA: 50 TWA: 0.05 mg/m³ Pb TWA: 50 TWA: 0.05 mg/m³ Pb TWA: 50 TWA: 0.05 mg/m³ TWA: 50 TWA: 0.2 mg/m³ thoracic particulate matter TWA: 1 fiber/cm3 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/m³ inhalable particulate matter Alberta British Columbia TWA: 0.05 mg/m³; Adverse reproductive effect	TWA: 0.05 mg/m³ Pb TWA: 50 μg/m³ TWA: 50 μg/m³ TWA: 50 μg/m³ TWA: 50 μg/m³ TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³ TWA: 1 fiber/cm3 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/m³ inhalable particulate matter Alberta British Columbia Ontario TWA: 0.05 mg/m³; Adverse reproductive effect	TWA: 0.05 mg/m³ Pb TWA: 50 µg/m³ Pb TWA: 50 µg/m³ Pb TWA: 50 µg/m³ Pb TWA: 50 µg/m³ Pb TWA: 0.05 mg/m³ TWA: 0.05 mg/m³ TWA: 0.05 mg/m³ TWA: 50 µg/m³ TWA: 50 µg/m³ TWA: 1 mg/m³ (vacated) TWA: 1 mg/m³ TWA: 1 fiber/cm3 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/m³ inhalable particulate matter Alberta British Columbia TWA: 0.05 mg/m³; Adverse reproductive effect TWA: 0.05 mg/m³;

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

Chemical name	Nunavut	Prince Edward Island	Saskatchewan	Yukon

Chemical name	Nunavut	Prince Edward Island	Saskatchewan	Yukon
Lead	TWA: 0.05 mg/m ³ ;	TWA: 0.05 mg/m ³ ;	TWA: 0.05 mg/m ³ ;	TWA: 0.15 mg/m ³ ; dust
	STEL: 0.15 mg/m ³ ;		STEL: 0.15 mg/m ³ ;	and fume
	Designated substance		Designated Chemical	STEL: 0.45 mg/m ³ ; dust
			Substance	and fume
Sulfuric acid	TWA: 0.2 mg/m ³ ;	TWA: 0.2 mg/m ³ ;	TWA: 0.2 mg/m ³ ; strong	
	thoracic fraction	thoracic particulate	acid mists only, thoracic	STEL: 1 mg/m ³ ;
	STEL: 0.6 mg/m ³ ;	matter	fraction	
	thoracic fraction		STEL: 0.6 mg/m ³ ; strong	
	Designated substance		acid mists only, thoracic	
			fraction	
			Designated Chemical	
			Substance	
Glass fiber				TWA: 30 mppcf; dust or
				fibrous
				TWA: 10 mg/m ³ ; dust or
				fibrous

Note

See section 16 for terms and abbreviations.

Other information on limit values

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962

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(11th Cir., 1992).

Biological occupational exposure limits

Chemical name	ACGIH
Lead sulfate 7446-14-2	200 μg/L - blood (Lead) - not critical
Lead peroxide 1309-60-0	200 μg/L - blood (Lead) - not critical
Lead 7439-92-1	200 μg/L - blood (Lead) - not critical

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

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

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

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

 Property
 Values
 Remarks • Method

 Melting point / freezing point
 No data available

Boiling point (or initial boiling point or No data available

boiling range)

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 No data available pН pH (as aqueous solution) No data available No data available Kinematic viscosity **Dvnamic viscosity** No data available

Dynamic viscosityNo data availableSolubilityNo data availableWater solubilityNo data availablePartition coefficient n-octanol/water (logNo data available

value)Vapor pressure (includes evaporation rate)No data available

Evaporation rate

Density and/or relative density

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 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.

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.

Possibility of hazardous reactions Lead component:

React violently with combustible materials and organic matter (sulfuric acid, hydrogen

peroxide, phosphoric acid), and it may cause risk of fire.

Sulfuric acid component:

Reacts violently with bases and is corrosive to most common metals forming a

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flammable/explosive gas (hydrogen).

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

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. Corrosive by inhalation.

(based on components). 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. Harmful by inhalation.

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 Redness. Burning. May cause blindness. Coughing and/ or wheezing.

<u>Acute toxicity</u> Harmful if swallowed. Harmful by inhalation.

Numerical measures of toxicity

The following ATE values have been calculated for the mixture:

ATEmix (oral) 625 mg/kg ATEmix (inhalation-dust/mist) 2.08 mg/l

Unknown acute toxicity

79 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

89.2 % 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
Tetrabromobisphenol A	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 0.5 mg/L (Rat)8 h

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50

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

ourns.

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 sulfate 7446-14-2	A3 A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Group 2A	Reasonably Anticipated	X
Lead peroxide 1309-60-0	A3 A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Group 2A	Reasonably Anticipated	Х
Lead 7439-92-1	A3 A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans	Group 2A	Reasonably Anticipated	Х
Sulfuric acid 7664-93-9	A2 A2 - Suspected Human Carcinogen (contained in strong inorganic acid mists)		Known	Х
Glass fiber 65997-17-3	A4 - Not Classifiable as a Human Carcinogen (listed under Synthetic vitreous fibers)	Group 3	-	-
Tetrabromobisphenol A 79-94-7	-	Group 2A	-	Х

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

A4 - Not Classifiable as a Human 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

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children.

STOT - single exposure No information available.

STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure.

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	Crustacea
			microorganisms	
Lead	-	LC50: =0.44mg/L (96h,	-	EC50: =600µg/L (48h,
7439-92-1		Cyprinus carpio)		water flea)
		LC50: =1.17mg/L (96h,		
		Oncorhynchus mykiss)		
		LC50: =1.32mg/L (96h,		
		Oncorhynchus mykiss)		
Sulfuric acid	-	LC50: >500mg/L (96h,	-	-
7664-93-9		Brachydanio rerio)		
Tetrabromobisphenol A	EC50: >5.6mg/L (96h,	LC50: =0.54mg/L (96h,	-	EC50: =0.96mg/L (48h,
79-94-7	Pseudokirchneriella	Pimephales promelas)		Daphnia magna)
	subcapitata)	LC50: =0.51mg/L (96h,		EC50: 6.8 - 9.2mg/L
		Lepomis macrochirus)		(48h, Daphnia magna)
		LC50: =0.06mg/L (96h,		
		Pimephales promelas)		

Persistence and degradability

No information available.

Bioaccumulation

Component Information

Chemical name	Partition coefficient
Tetrabromobisphenol A	5.903
79-94-7	

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

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non-spillable criteria listed in CFR 49 173.159 (f) and 173.159a (d) (1)

UN number or ID number UN2800

Proper shipping name BATTERIES, WET, NON-SPILLABLE

Transport hazard class(es)

DOT Marine Pollutant Not applicable

Description UN2800, BATTERIES, WET, NON-SPILLABLE, 8

TDG

UN number or ID number UN2800

Proper shipping nameBatteries, wet, non-spillable

Transport hazard class(es) 8

Description UN2800, Batteries, wet, non-spillable, 8

<u>IATA</u>

UN number or ID number UN2800

UN proper shipping name Batteries, wet, non-spillable

Transport hazard class(es) 8
Environmental hazards No

Special Provisions A48, A67, A164, A183

ERG Code 8L

Description UN2800, Batteries, wet, non-spillable, 8

IMDG

UN number or ID number UN2800

UN proper shipping name Batteries, wet, non-spillable

Transport hazard class(es) 8

Marine pollutant indicator Not applicable

Special Provisions 238 EmS-No. F-A, S-B

Description UN2800, Batteries, wet, non-spillable, 8

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 sulfate 7446-14-2	-	X	-	Х
Lead peroxide 1309-60-0	-	X	-	-
Lead 7439-92-1	-	X	Х	-
Sulfuric acid 7664-93-9	1000 lb	-	-	Х

CAA (Clean Air Act)

This product contains the following substances which are regulated pollutants to the Clean Air Act (CAA).

Chemical name	Hazardous air pollutants (HAPs)	Ozone-depleting substances (ODS)
Lead sulfate 7446-14-2	Present	-
Lead peroxide 1309-60-0	Present	-

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 sulfate	10 lb	-	RQ 10 lb final RQ
7446-14-2			RQ 4.54 kg final RQ
Lead	10 lb	-	RQ 10 lb final RQ
7439-92-1			RQ 4.54 kg final RQ
Sulfuric acid	1000 lb	1000 lb	RQ 1000 lb final RQ
7664-93-9			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 peroxide - 1309-60-0	Carcinogen
Lead - 7439-92-1	Carcinogen
	Developmental
	Female Reproductive

	Male Reproductive	
Lead sulfate - 7446-14-2	Carcinogen	
Sulfuric acid - 7664-93-9	Carcinogen	
Tetrabromobisphenol A - 79-94-7	Carcinogen	

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Lead peroxide 1309-60-0	X	X	Х
Lead 7439-92-1	X	X	Х
Lead sulfate 7446-14-2	X	X	Х
Sulfuric acid 7664-93-9	X	X	Х
Tetrabromobisphenol A 79-94-7	X	-	-

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA Health hazards 3 Flammability 0 Instability 0 Special hazards - 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

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

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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
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
Ot pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption
PON	potential for outdisond absorption

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

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Disclaimer

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End of Safety Data Sheet