
4. First aid measures

Eye contact

Flush immediately with water for 15 minutes. Lift upper and lower eyelids for complete rinsing. Get immediate medical attention.

Skin Contact

Skin Contact Flush with water for 15 minutes. If irritation persists after rinsing, get medical attention. Remove contaminated clothing and wash before reuse.

Inhalation

Inhalation Remove victim to fresh air. If breathing difficulty occurs or persists, get medical attention.

Ingestion

Ingestion Rinse mouth with water. Give water to dilute. Do not induce vomiting. Get immediate medical attention. Never give anything by mouth to a semi-comatose, comatose, convulsing or unconscious person.

Self-protection of the first aider

Most important symptoms and effects, both acute and delayed

Symptoms

DXVHVHHLUULWDWLR6PSWRVPDLFOXGHVWLLWHDULUHGHVVHOOOLDGEOXUUHGYLVLR6NLLUULWDWLR0DFDXVHUHGHVVDGSDL0DEHKDUPIXOLIVDOORHG

5. Fire-fighting measures

Suitable extinguishing media

Carbon Dioxide, Dry Chemical, Foam, Water Fog

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this may spread the fire.

Specific hazards arising from the chemical

None known

Hazardous combustion products

Carbon oxides, nitrogen oxides. May react with chemically reactive metals such as aluminum, zinc, magnesium, copper, etc. to release hydrogen gas which can form explosive mixtures in air.

Explosion Data

Sensitivity to mechanical impact**Sensitivity to static discharge**

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Use water spray to cool fire exposed containers. Move containers from fire area if you can do it without risk.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions

Evacuate nonessential personnel. Avoid contact with eyes, skin and clothing. Ventilate area. Wear appropriate personal protection equipment. Remove all ignition sources.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods for containment

Absorb spill with inert material (e.g. dry sand or earth), then place in a chemical waste container. Remove free liquid. Contain spill and keep from entering waterways or sewers.

Methods for cleaning up

Recover as much material as possible into containers for disposal or reuse. Remaining material may be diluted with water and neutralized. Flush spill area with water.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Do not get in eyes, on skin, or clothing. Wash thoroughly after handling. Wear appropriate protective clothing/equipment. Do not breathe mist. Use with adequate ventilation. Do not ingest.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed. Keep in a dry place. Keep away from heat/sources of ignition. Do not store in direct sunlight.

Incompatible materials

Reacts with copper, aluminum, zinc and their alloys. Avoid contact with acids

8. Exposure controls/personal protection

Control parameters

Exposure Guideline

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Potassium hydroxide 1310-58-3	Ceiling: 2 mg/m3	(vacated) Ceiling: 2 mg/m3	Ceiling: 2 mg/m3
TSRN4075	25 ppm		

Appropriate engineering controls

Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear protective splash proof safety goggles. Additional full face protection is recommended if splashing is a possibility. Avoid contact with eyes.

Skin and body protection

Wear protective gloves and protective clothing, as needed.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Wash contaminated clothing before reuse. When using do not eat, drink or smoke. Wash thoroughly after handling.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Liquid
Color	Amber
Odor	Ammoniacal
Odor threshold	No information available
pH	13-13.5
Melting point/freezing point	No information available
Boiling point / boiling range	No information available
Flash point	No information available
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability upper limit in air	No information available

Flammability lower limit in air	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity	1.092-1.112
Water solubility	Soluble in water
Partition coefficient	No information available
Autoignition temperature	
Decomposition temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available

10. Stability and reactivity

Reactivity

No information available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

Reacts with copper, aluminum, zinc and their alloys. Avoid contact with acids, strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive fumes of potassium oxide. Oxides of carbon and nitrogen.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation	May be harmful if inhaled.
Eye contact	Risk of serious damage to eyes. Avoid contact with eyes.
Skin Contact	Avoid contact with skin. Contact causes severe skin irritation and possible burns. May cause an allergic skin reactions.
Ingestion	May be harmful if swallowed.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Potassium hydroxide 1310-58-3	284 mg/kg (Rat)		
TSRN3549	Rat LD50 >2000 mg/kg	Rabbit LD50 7630 mg/kg	
TSRN9292	LD50 Rat 2079 - 2340 mg/kg	LD50 Rabbit 6300 - 160000 mg/kg	LD50 Rat 52 - 206 mg/l
TSRN3050	Rat, 1,740 mg/kg (Estimated)	Rabbit, No irritation	LD50 Rat >5 mg/l
TSRN1841	Acute toxicity estimate: 555.56 mg/kg	Acute toxicity estimate: > 5,000 mg/kg	
TSRN4075	LD50 3700 mg/kg	LD50 7890 mg/kg	LC50 > 0.31 mg/l (Exposure time: 1 h)
TSRN8230	>10,000 mg/kg (rat)	>2,000 mg/kg (rabbit)	

Information on toxicological effects

Symptoms Corrosive. Causes irritation (possibly severe), burns to the eyes. May cause permanent eye damage. Causes irritation (possibly severe), burns to the skin. Causes irritation (possibly severe), burns, pulmonary edema to the respiratory tract. Causes irritation (possibly severe), burns, nausea, vomiting to the gastrointestinal tract. The severity of effects depend on concentration and how soon after exposure the area is washed.

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

Sensitization	No information available
Germ cell mutagenicity	No information available
Carcinogenicity	No information available

Chemical Name	ACGIH	IARC	NTP	OSHA
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Reproductive toxicity No information available

STOT - single exposure No information available
 STOT - repeated exposure No information available
 Aspiration hazard No information available

Numerical measures of toxicity - Product Information

12. Ecological information

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Potassium hydroxide 1310-58-3		LC50 (Gambusia affinis): 80 mg/L 96h static	EC50 (Daphnia magna): 60 mg/L/48 hr (static bioassay at 20.3-20.7 C)
TSRN9292	EC50 Algae 3.2 - 5.2 mg/l, 72 h	LC50 Danio rerio 3.5 - 5 mg/l, 96 h	EC50 Daphnia 4.53 mg/l, 48 h
TSRN3050	EC50: > 100 mg/l Exposure time: 72 h Species: algae	NOEC: > 25.7 mg/l Exposure time: 35 d Species: Danio rerio (zebra fish) Test Type: flow-through test Method: OECD Test Guideline 210 Read-across (Analogy)	EC50: 140 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) Method: DIN 38412 Read-across (Analogy)
TSRN1841		LC50: > 1 - 10 mg/l Exposure time: 96 h Species: Fish	EC50: > 10 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea)
TSRN4075		LC50 1 10700 mg/l, 96 h (Pimephales promelas) EC50 1 2700 - 3700 mg/l, 48 h (Daphnia magna) LC50 2 10000 mg/l, 96 h (Lepomis macrochirus [static])	
TSRN8230	72 hr for EL50 AUC=854.90 mg/l loading rate WAF; NOEL 500 mg/l loading rate WAF	96 hr for LL50 >1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF	48 hr for LL50 >1000 mg/l loading rate WAF; NOEL 1000 mg/l loading rate WAF

Persistence and degradability No information available
 Bioaccumulation No information available

Chemical Name	Partition coefficient
Potassium hydroxide 1310-58-3	0.83
TSRN8230	(LogKow) 4.9-7.6 (OECD117)

Other adverse effects No information available

13. Disposal considerations

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.
 Contaminated packaging Do not reuse container. Avoid release to the environment.

Chemical Name	California Hazardous Waste Status

14. Transport information

DOT	DoT regulated
UN/ID No.	UN1760
Proper shipping name	Corrosive Liquid, N.O.S.
Hazardous ingredients	(potassium hydroxide)
Hazard class	8
Packing group	III

15. Regulatory information

US Federal Regulations

SARA 311/312 Hazards

Acute Toxicity-Oral
Skin Corrosion/Irritation
Serious Eye Damage/Irritation
Sensitization-Skin Sub-category A
Corrosive to Metals

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	Reportable Quantities	Toxic Pollutants	Priority Pollutants	Hazardous Substances
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CERCLA

This material, as supplied, does contain a substance 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).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Potassium hydroxide 1310-58-3	1000 lb	1000 lb	

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. EPA Label Information

EPA Pesticide Registration Number Not Applicable

16. OTHER INFORMATION

NFPA	Health hazards	3	Flammability	1	Instability	0	Physical and Chemical Properties
HMS	Health hazards	3	Flammability	1	Physical hazards	0	Personal protection X
Prepared By	lmt						
Issue Date	2024-09-24						
Revision Date	2024-09-24						
Revision Note	New product						

Disclaimer

The information provided in this Material 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