

SAFETY DATA SHEET



Klenzoid

1. Identification

Product identifier	Molyklenz
Other means of identification	None
Recommended use	Industrial Water Treatment
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Klenzoid Canada Inc.
Address	245 Matheson Blvd East Units 1- 4 Mississauga, ON L4Z 3C9 Canada
Telephone	1-905-712-4000
Website	www.klenzoid.com
e-mail	Not available.
Emergency phone number	1-613-996-6666 (CANUTEC)
Supplier	See above.

2. Hazard identification

Physical hazards	Corrosive to metals	Category 1
Health hazards	Skin corrosion/irritation	Category 1
	Serious eye damage/eye irritation	Category 1
	Reproductive toxicity	Category 1B
Environmental hazards	Not classified.	

Label elements



Signal word Danger

Hazard statement May be corrosive to metals.
Causes severe skin burns and eye damage.
May damage fertility or the unborn child.

Precautionary statement

Prevention

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep only in original packaging.
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.

Response

Absorb spillage to prevent material-damage.
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse. Specific treatment (see information on this label).
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF INHALED: remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage

Store in a corrosion resistant container with a resistant inner liner.
Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards None known.

Supplemental information None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Sodium molybdate		7631-95-0	1 - 5
Potassium hydroxide		1310-58-3	0.5 - 1.5
Sodium borate		1330-43-4	0.5 - 1.5

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	IF INHALED: remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
Skin contact	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER/doctor. Wash contaminated clothing before reuse.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
Ingestion	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor.
Most important symptoms/effects, acute and delayed	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Wear rubber gloves and chemical splash goggles. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media	Treat for surrounding material.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not available.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of boron. Oxides of molybdenum.
Special protective equipment and precautions for firefighters	Firefighters should wear full protective clothing including self contained breathing apparatus.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not breathe mist or vapour. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.
Methods and materials for containment and cleaning up	Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Never return spills in original containers for re-use. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS. Prevent entry into waterways, sewers, basements or confined areas.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	<p>Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes, on skin, or on clothing. Do not breathe mist or vapour. Use only with adequate ventilation. Pregnant or breastfeeding women must not handle this product. Avoid prolonged exposure. Observe good industrial hygiene practices. Wash thoroughly after handling. When using do not eat or drink.</p>
Conditions for safe storage, including any incompatibilities	<p>Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children. Store locked up.</p>

8. Exposure controls/Personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	
Sodium borate (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	
Sodium borate (CAS 1330-43-4)	STEL	3 ppm	
	TWA	1 mg/m3	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable.

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	
Sodium borate (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable
	TWA	2 mg/m3	Inhalable
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable.

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	
Sodium borate (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3	

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Sodium borate (CAS 1330-43-4)	STEL	6 mg/m3	Inhalable fraction.
	TWA	2 mg/m3	Inhalable fraction.
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m3	Respirable fraction.

Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3
Sodium borate (CAS 1330-43-4)	TWA	1 mg/m3
Sodium molybdate (CAS 7631-95-0)	TWA	5 mg/m3

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Potassium hydroxide (CAS 1310-58-3)	Ceiling	2 mg/m3

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	See above
Appropriate engineering controls	Ensure adequate ventilation.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear chemical goggles.
Skin protection	
Hand protection	Rubber gloves. Confirm with a reputable supplier first.
Other	As required by employer code.
Respiratory protection	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).
Thermal hazards	Not applicable.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and immediately after handling the product. When using do not eat or drink.

9. Physical and chemical properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid
Colour	Clear colourless
Odour	Characteristic
Odour threshold	Not available.
pH	12.2 (100%)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	110 °C (230 °F)
Flash point	Not available.
Evaporation Rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.

Vapour pressure	Not available.
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (Water)	Complete
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Water thin
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidising.
Specific gravity	1.05

10. Stability and reactivity

Reactivity	May react with incompatible materials.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Acids. Oxidising agents. Soft metals.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of nitrogen. Oxides of boron. Oxides of molybdenum.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
Skin contact	Causes severe skin burns.
Eye contact	Causes serious eye damage.
Ingestion	May cause stomach distress, nausea or vomiting.

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage.
 Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity

Components	Species	Test results
Potassium hydroxide (CAS 1310-58-3)		
Acute		
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	388 mg/kg, ECHA 365 mg/kg, ECHA 333 mg/kg, ECHA 273 mg/kg
Sodium borate (CAS 1330-43-4)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, 24 Hours
<i>Inhalation</i>		
LC50	Rat	> 2 mg/L, 4 Hours > 2 mg/L, 5 Hours
<i>Oral</i>		
LD50	Dog	2000 mg/kg

Components	Species	Test results
	Mouse	3450 mg/kg
		1060 mg/kg
	Rat	> 250 mg/kg
		2403 mg/kg
Sodium molybdate (CAS 7631-95-0)		
Acute		
<i>Dermal</i>		
LD50	Not available	
<i>Inhalation</i>		
LC50	Rat	> 5.1 mg/l/4h
<i>Oral</i>		
LD50	Rat	4000 mg/kg
Skin corrosion/irritation	Causes severe skin burns and eye damage.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye damage.	
Corneal opacity value	Not available.	
Iris lesion value	Not available.	
Conjunctival reddening value	Not available.	
Conjunctival oedema value	Not available.	
Recover days	Not available.	
Respiratory or skin sensitisation		
Canada - Alberta OELs: Irritant		
Potassium hydroxide (CAS 1310-58-3)		Irritant
Sodium borate (CAS 1330-43-4)		Irritant
Sodium molybdate (CAS 7631-95-0)		Irritant
Respiratory sensitisation	Not a respiratory sensitizer.	
Skin sensitisation	This product is not expected to cause skin sensitisation.	
Germ cell mutagenicity	Not classified.	
Carcinogenicity	See below.	
ACGIH Carcinogens		
Sodium borate (CAS 1330-43-4)		A4 Not classifiable as a human carcinogen.
Sodium molybdate (CAS 7631-95-0)		A3 Confirmed animal carcinogen with unknown relevance to humans.
Canada - Manitoba OELs: carcinogenicity		
BORATE COMPOUNDS, INORGANIC, INHALABLE FRACTION (CAS 1330-43-4)		Not classifiable as a human carcinogen.
MOLYBDENUM, SOLUBLE COMPOUNDS, AS MO, RESPIRABLE FRACTION (CAS 7631-95-0)		Confirmed animal carcinogen with unknown relevance to humans.
Reproductive toxicity	May damage fertility or the unborn child.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	
Chronic effects	Prolonged inhalation may be harmful. Animals on high dietary levels of molybdenum showed anemia and deformities of the joints.	
Further information	Not available.	

12. Ecological information

Ecotoxicity See below

Ecotoxicological data

Components	Species	Test results
Potassium hydroxide (CAS 1310-58-3)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 80 mg/L, 96 hours
Sodium borate (CAS 1330-43-4)		
Aquatic		
Fish	LC50	Western mosquitofish (<i>Gambusia affinis</i>) 104 mg/L, 96 hours
Sodium molybdate (CAS 7631-95-0)		
Aquatic		
Crustacea	EC50	Tubificid worm (<i>Tubifex tubifex</i>) 42.48 - 65.64 mg/L, 48 hours
Fish	LC50	Striped bass (<i>Morone saxatilis</i>) > 79.8 mg/L, 96 hours
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available.	
Mobility in soil	No data available.	
Mobility in general	Not available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

General	Canada: TDG Proof of Classification: In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue. If applicable, the technical name and the classification of the product will appear below.
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Transportation of Dangerous Goods (TDG - Canada)**Basic shipping requirements:**

UN number	UN3266
Proper shipping name	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.
Technical name	Potassium hydroxide
Hazard class	8
Packing group	II
Special provisions	16

TDG

**15. Regulatory information**

Canadian federal regulations	This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.
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Export Control List (CEPA 1999, Schedule 3)

Not listed.

