


1. Identification

Product identifier	BOILERMATE 6100M
Other means of identification	Not available.
Recommended use	Boiler Water Treatment
Recommended restrictions	None known.
Manufacturer/Importer/Supplier/Distributor information	
Manufacturer	
Company name	Miura Canada Co., Ltd.
Address	4025 Sladeview Crescent, Unit 5&6 Mississauga, ON L5L 5Y1 Canada
Telephone	905-607-4289 905-607-8329 (Fax) 1-800-666-2182 (Toll Free)
E-mail	canada-customersupport@miuraz.com
Emergency phone number	Not available.
Supplier	See above.

2. Hazard identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		
Signal word	Warning	
Hazard statement	Causes skin irritation. Causes serious eye irritation.	
Precautionary statement		
Prevention	Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection.	
Response	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it 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 eye irritation persists: Get medical attention.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of container in accordance with local, regional, national and international regulations.	
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known	
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known	
Hazard(s) not otherwise classified (HNOC)	None known.	
Supplemental information	None.	

3. Composition/Information on ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Morpholine		110-91-8	0.5 - 1.5 *
Sodium sulfite		7757-83-7	7 - 13 *

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

Composition comments *CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.
US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

4. First-aid measures

Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Skin contact	IF ON SKIN: Wash with plenty of water. If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse. Specific treatment (see information on this label).
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	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. Keep out of reach of children.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
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.
Hazardous combustion products	May include and are not limited to: Oxides of carbon. Oxides of sulfur.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Stop the flow of material, if this is 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. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. For waste disposal, see section 13 of the SDS.
Environmental precautions	Do not discharge into lakes, streams, ponds or public waters.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Do not breathe vapor. Provide adequate ventilation. Wash thoroughly after handling. Observe good industrial hygiene practices. When using do not eat or drink.
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Conditions for safe storage, including any incompatibilities

Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS). Keep out of reach of children.

8. Exposure controls/Personal protection

Occupational exposure limits

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	71 mg/m3 20 ppm

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	71 mg/m3 20 ppm

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

Components	Type	Value
Morpholine (CAS 110-91-8)	15 minute	30 ppm
	8 hour	20 ppm

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Morpholine (CAS 110-91-8)	PEL	70 mg/m3 20 ppm

US. ACGIH Threshold Limit Values

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Morpholine (CAS 110-91-8)	STEL	105 mg/m3 30 ppm
	TWA	70 mg/m3 20 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Canada - Alberta OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Morpholine (CAS 110-91-8) Can be absorbed through the skin.

Appropriate engineering controls Ensure adequate ventilation.**Individual protection measures, such as personal protective equipment****Eye/face protection** Wear safety glasses with side shields.**Skin protection****Hand protection** Impervious gloves. Confirm with 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, drink or smoke.

9. Physical and chemical properties

Appearance	Transparent
Physical state	Liquid.
Form	Liquid.
Color	Light yellow
Odor	None to slight
Odor threshold	Not available.
pH	10.9 (1% water solution)
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Pour point	Not available.
Specific gravity	1.11
Partition coefficient (n-octanol/water)	Not available.
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.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	May react with incompatible materials.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Material is stable under normal conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon. Oxides of sulfur. Oxides of sodium.

11. Toxicological information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	May cause stomach distress, nausea or vomiting.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	Causes skin irritation.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Morpholine (CAS 110-91-8)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	500 mg/kg, LOLI 500 mg/kg, 24 Hours, ECHA 0.5 ml/kg, HSDB 0.3 - 0.8 ml/kg, 24 Hours, ECHA
<i>Inhalation</i>		
LC50	Mouse	1320 mg/m ³ , 2 Hours, HSDB 370 ppm, 2 Hours, HSDB 24 mg/L, 4 Hours, HSDB 1.3 mg/L, 2 Hours, HSDB
	Rat	28.5 mg/L, 8 Hours, HSDB 18.1 mg/L, 6 Hours, HSDB
<i>Oral</i>		
LD50	Guinea pig	900 mg/kg, Cheminfo 0.1 g/kg, HSDB
	Mouse	720 mg/kg, HSDB 525 mg/kg, Cheminfo
	Rat	1900 mg/kg, ECHA 1680 mg/kg, ECHA 1600 mg/kg, ECHA 1050 mg/kg, LOLI 1.1 g/kg, HSDB
Sodium sulfite (CAS 7757-83-7)		
Acute		
<i>Dermal</i>		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA

Components	Species	Test Results
<i>Inhalation</i> LC50	Rat	> 22 mg/L, 4 Hours, ECHA > 5.5 mg/L, 4 Hours, ECHA
<i>Oral</i> LD50	Rat	2150 - 2610 mg/kg, ECHA 2746 mg/kg, ECHA 2610 mg/kg, ECHA
Skin corrosion/irritation	Causes skin irritation.	
Exposure minutes	Not available.	
Erythema value	Not available.	
Oedema value	Not available.	
Serious eye damage/eye irritation	Causes serious eye irritation.	
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 sensitization		
Canada - Alberta OELs: Irritant		
Potassium hydroxide (CAS 1310-58-3)	Irritant	
Respiratory sensitization	Not a respiratory sensitizer.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Mutagenicity	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
Carcinogenicity	See below.	
IARC Monographs. Overall Evaluation of Carcinogenicity		
Morpholine (CAS 110-91-8)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.	
Sodium sulfite (CAS 7757-83-7)	Volume 54 - 3 Not classifiable as to carcinogenicity to humans.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Teratogenicity	Not available.	
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.	

12. Ecological information

Ecotoxicity	See below		
Ecotoxicological data			
Components	Species	Test Results	
Morpholine (CAS 110-91-8)			
Aquatic			
Fish	LC50	Zebra danio (Danio rerio)	> 1 mg/L, 96 hours
Sodium sulfite (CAS 7757-83-7)			
Aquatic			
Fish	LC50	Western mosquitofish (Gambusia affinis)	660 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

Transport of Dangerous Goods (TDG) Proof of Classification	Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.
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U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

Transportation of Dangerous Goods (TDG - Canada)

Not regulated as dangerous goods.

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.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions	Controlled
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US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Morpholine (CAS 110-91-8)	Listed.
Potassium hydroxide (CAS 1310-58-3)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance	No
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SARA 311/312 Hazardous chemical	Yes
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Classified hazard categories	Acute toxicity (any route of exposure) Skin corrosion or irritation Serious eye damage or eye irritation
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SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

**Clean Water Act (CWA)
Section 112(r) (40 CFR
68.130)**

Hazardous substance

US state regulations

See below

US - California Hazardous Substances (Director's): Listed substance

Morpholine (CAS 110-91-8) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.

US - Illinois Chemical Safety Act: Listed substance

Morpholine (CAS 110-91-8)
Potassium hydroxide (CAS 1310-58-3)

US - Louisiana Spill Reporting: Listed substance

Morpholine (CAS 110-91-8) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.

US - Minnesota Haz Subs: Listed substance

Morpholine (CAS 110-91-8) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.

US - Texas Effects Screening Levels: Listed substance

Morpholine (CAS 110-91-8) Listed.
Potassium hydroxide (CAS 1310-58-3) Listed.
Sodium sulfite (CAS 7757-83-7) Listed.

US. Massachusetts RTK - Substance List

Morpholine (CAS 110-91-8)
Potassium hydroxide (CAS 1310-58-3)

US. New Jersey Worker and Community Right-to-Know Act

Morpholine (CAS 110-91-8)
Potassium hydroxide (CAS 1310-58-3)

US. Pennsylvania Worker and Community Right-to-Know Law

Morpholine (CAS 110-91-8)
Potassium hydroxide (CAS 1310-58-3)

US. Rhode Island RTK

Morpholine (CAS 110-91-8)
Potassium hydroxide (CAS 1310-58-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

Inventory status

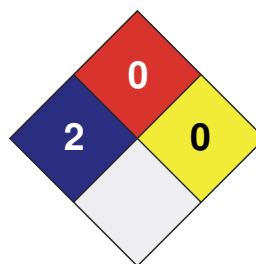
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



Disclaimer

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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Prepared by

Dell Tech Laboratories, Ltd. Phone: (519) 858-5021

Further information

Not available.

Other information

For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.