SAFETY DATA SHEET

1. Identification

Product identifier	**BOILERMATE 6200M**
Other means of identification	Not available.
Recommended use	Boiler Water Treatment
Recommended restrictions	None known.
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	613-996-6666 (CANUTEC) Transport
Supplier	See above.

2. Hazard identification

Physical hazards	Not classified.	
Health hazards	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 1
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		

Signal word	Danger
Hazard statement	Causes skin irritation. Causes serious eye damage.
Precautionary statement	
Prevention	Wash thoroughly after handling. Wear protective gloves, eye protection, and face protection.
Response	IF ON SKIN: Wash with plenty of water. Specific treatment (see information on this label). If skin irritation occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. 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 or doctor.
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

Hazardous components

Chemical name	Common name and synonyms	CAS number	%
2-Propenoic acid, polymer with sodium phosphinate		71050-62-9	0.5 - 1.5 *
Morpholine		110-91-8	1 - 5 *
Sodium metabisulfite		7681-57-4	10 - 30 *
Tetrasodium ethylenediamine tetraacetate		64-02-8	0.1 - 1 *

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. Take off contaminated clothing and wash it 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 or doctor.

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

Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
Skin irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin.

Indication of immediate medical attention and special treatment needed

Treat patient 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. Wear rubber gloves and chemical splash goggles. 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

Firefighters should wear a self-contained breathing apparatus.

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.

General fire hazards

No unusual fire or explosion hazards noted.

Hazardous combustion products

May include and are not limited to: Oxides of sulphur. Oxides of carbon. Oxides of sodium.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep people away from and upwind of spill/leak. 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 leak if you can do so without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. 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.
Do not breathe mist or vapor.
Use only with adequate ventilation.
Observe good industrial hygiene practices.
Wash thoroughly after handling.
When handling, do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities

Store locked up.
Store in a well-ventilated place.
Store away from incompatible materials (see Section 10 of the SDS).
Keep out of the 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
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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

Components	Type	Value
Morpholine (CAS 110-91-8)	TWA	20 ppm
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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
Sodium metabisulfite (CAS 7681-57-4)	15 minute	10 mg/m3
	8 hour	5 mg/m3

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. ACGIH Threshold Limit Values

Components	Type	Value
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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
Sodium metabisulfite (CAS 7681-57-4)	TWA	5 mg/m3

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

Exposure guidelines Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.

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) Danger of cutaneous absorption

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) Danger of cutaneous absorption

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 (or goggles).

Skin protection

Hand protection Chemical resistant 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 Transparent

Physical state Liquid.

Form Liquid

Color Colorless to pale yellow

Odor Amine

Odor threshold Not available.

pH 7.6 (1% water solution)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available

Pour point	Not available.
Specific gravity	1.20
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	
Density	Not available

10. Stability and reactivity

Reactivity	May react with incompatible materials.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Do not mix with other chemicals.
Incompatible materials	Acids. Oxidizers. Reducing agents.
Hazardous decomposition products	May include and are not limited to: Oxides of sulphur. Oxides of carbon. 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 damage.
Symptoms related to the physical, chemical and toxicological characteristics	Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Causes skin irritation. Symptoms may include redness, drying, defatting and cracking of the skin.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
2-Propenoic acid, polymer with sodium phosphinate (CAS 71050-62-9)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	

Components	Species	Test Results
Morpholine (CAS 110-91-8)		
Acute		
Dermal		
LD50	Rabbit	500 mg/kg, 24 Hours, ECHA
Inhalation		
LC50	Rat	8 mg/L, ECHA
Oral		
LD50	Rat	1900 mg/kg, ECHA
Potassium sulfite (CAS 10117-38-1)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA
Inhalation		
LC50	Rat	> 5.5 mg/L, 4 Hours, ECHA
Oral		
LD50	Rat	> 2000 mg/kg, ECHA
Sodium metabisulfite (CAS 7681-57-4)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, 24 Hours, ECHA
Inhalation		
LC50	Rat	> 5.5 mg/L, 4 Hours, ECHA
Oral		
LD50	Rat	1540 mg/kg, ECHA
Tetrasodium ethylenediamine tetraacetate (CAS 64-02-8)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	1780 - 2000 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 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 sensitization

Canada - Alberta OELs: Irritant

Sodium bisulfite (CAS 7631-90-5)	Irritant
Sodium metabisulfite (CAS 7681-57-4)	Irritant

Respiratory sensitization Not classified.

Skin sensitization This product is not expected to cause skin sensitization.

Mutagenicity Not classified.

Carcinogenicity Not classified.

IARC Monographs. Overall Evaluation of Carcinogenicity

Morpholine (CAS 110-91-8)	Volume 47, Volume 71 - 3 Not classifiable as to carcinogenicity to humans.
Potassium sulfite (CAS 10117-38-1)	Volume 54 - 3 Not classifiable as to carcinogenicity to humans.
Sodium bisulfite (CAS 7631-90-5)	Volume 54 - 3 Not classifiable as to carcinogenicity to humans.
Sodium metabisulfite (CAS 7681-57-4)	Volume 54 - 3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not listed.

Reproductive toxicity	Not classified.
Teratogenicity	Not classified.
Specific target organ toxicity - single exposure	Not classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not classified.
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 metabisulfite (CAS 7681-57-4)			
Algae	IC50	Algae	48 mg/L, 72 Hours
Tetrasodium ethylenediamine tetraacetate (CAS 64-02-8)			
Algae	EC50	Algae	1.01 mg/L, 72 Hours
Aquatic			
Crustacea	EC50	Water flea (Daphnia magna)	610 mg/L, 24 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	472 - 500 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	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

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.

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.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

WHMIS 2015 Exemptions Controlled

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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.
Sodium bisulfite (CAS 7631-90-5)	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

Classified hazard categories Skin corrosion or irritation
Serious eye damage or eye irritation

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.
Sodium bisulfite (CAS 7631-90-5)	Listed.
Sodium metabisulfite (CAS 7681-57-4)	Listed.

US - Illinois Chemical Safety Act: Listed substance

Morpholine (CAS 110-91-8)
Sodium bisulfite (CAS 7631-90-5)

US - Louisiana Spill Reporting: Listed substance

Morpholine (CAS 110-91-8)	Listed.
Sodium bisulfite (CAS 7631-90-5)	Listed.

US - Minnesota Haz Subs: Listed substance

Morpholine (CAS 110-91-8)	Listed.
Sodium bisulfite (CAS 7631-90-5)	Listed.
Sodium metabisulfite (CAS 7681-57-4)	Listed.

US - Texas Effects Screening Levels: Listed substance

Morpholine (CAS 110-91-8)	Listed.
Potassium sulfite (CAS 10117-38-1)	Listed.
Sodium bisulfite (CAS 7631-90-5)	Listed.
Sodium metabisulfite (CAS 7681-57-4)	Listed.
Tetrasodium ethylenediamine tetraacetate (CAS 64-02-8)	Listed.

US. Massachusetts RTK - Substance List

Morpholine (CAS 110-91-8)
Sodium bisulfite (CAS 7631-90-5)

Sodium metabisulfite (CAS 7681-57-4)

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

Morpholine (CAS 110-91-8)
Sodium bisulfite (CAS 7631-90-5)
Sodium metabisulfite (CAS 7681-57-4)

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

Morpholine (CAS 110-91-8)
Sodium bisulfite (CAS 7631-90-5)
Sodium metabisulfite (CAS 7681-57-4)

US. Rhode Island RTK

Morpholine (CAS 110-91-8)
Sodium bisulfite (CAS 7631-90-5)
Sodium metabisulfite (CAS 7681-57-4)

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.

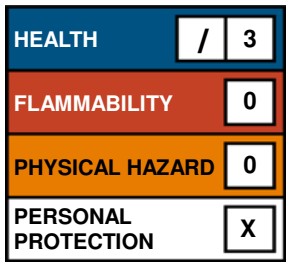
Inventory status

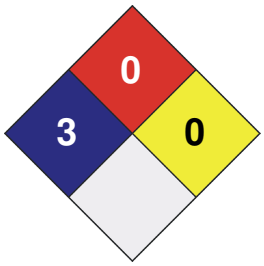
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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





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

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