

## 1. Identification

<b>Product identifier</b>	<b>BOILERMATE 9100H Hardness Checker</b>		
<b>Other means of identification</b>	Not available.		
<b>Recommended use</b>	Boiler Water Treatment		
<b>Recommended restrictions</b>	None known.		
<b>Manufacturer/Importer/Supplier/Distributor information</b>			
<b>Manufacturer</b>			
<b>Company name</b>	Miura America Co., Ltd.		
<b>Address</b>	2200 Steven B Smith Blvd Rockmart, GA 30153 United States		
<b>Telephone</b>	Phone	678-685-0929	
	Toll Free	1-888-309-5574	
	Fax	678-685-0930	
<b>E-mail</b>	Not available.		
<b>Emergency phone number</b>	CHEMTREC	1 800-424-9300	

## 2. Hazards Identification

<b>Physical hazards</b>	Not classified.
<b>Health hazards</b>	Not classified.
<b>Environmental hazards</b>	Not classified.
<b>OSHA defined hazards</b>	Not classified.
<b>Label elements</b>	
<b>Hazard symbol</b>	None.
<b>Signal word</b>	None.
<b>Hazard statement</b>	The mixture does not meet the criteria for classification.
<b>Precautionary statement</b>	
<b>Prevention</b>	Observe good industrial hygiene practices.
<b>Response</b>	Wash hands after handling.
<b>Storage</b>	Store away from incompatible materials.
<b>Disposal</b>	Dispose of container in accordance with local, regional, national and international regulations.
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	None.

## 3. Composition/Information on Ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
1,2-Propanediol		57-55-6	60-100
Ethanol, 2,2",2""-nitritoltris-		102-71-6	10-30
Diethanolamine		111-42-2	0.1-1

**Composition comments** 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

<b>Inhalation</b>	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
<b>Skin contact</b>	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
<b>Eye contact</b>	Flush with cool water. Remove contact lenses, if applicable, and continue flushing. Obtain medical attention if irritation persists.
<b>Ingestion</b>	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. Obtain medical attention immediately.

<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically.
<b>General information</b>	IF exposed or concerned: Get medical attention. 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

<b>Suitable extinguishing media</b>	Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide.
<b>Unsuitable extinguishing media</b>	Not available.
<b>Specific hazards arising from the chemical</b>	Not available.
<b>Special protective equipment and precautions for firefighters</b>	Firefighters should wear full protective clothing including self-contained breathing apparatus.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.
<b>Flammable properties</b>	Not flammable by OSHA criteria.

## 6. Accidental Release Measures

<b>Personal precautions, protective equipment and emergency procedures</b>	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.
<b>Methods and materials for containment and cleaning up</b>	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. Never return spills in original containers for re-use. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. Prevent entry into waterways, sewer, basements or confined areas. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
<b>Environmental precautions</b>	Do not discharge into lakes, streams, ponds or public waters.

## 7. Handling and Storage

<b>Precautions for safe handling</b>	Avoid contact with eyes, skin and clothing. Wear appropriate personal protective equipment. Avoid breathing vapors or mists of this product. Use only with adequate ventilation. Avoid prolonged exposure. Observe good industrial hygiene practices. Wash thoroughly after handling. When using do not eat or drink.
<b>Conditions for safe storage, including any incompatibilities</b>	Store locked up. Store in a cool, dry, well-ventilated place. Keep out of reach of children.

## 8. Exposure Controls/Personal Protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Ethanol, 2,2",2""-nitrotris- (CAS 102-71-6)	TWA	5 mg/m3	

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Diethanolamine (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm

#### US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
1,2-Propanediol (CAS 57-55-6)	TWA	10 mg/m3	Aerosol.

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
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**Exposure guidelines** Chemicals listed in section 3 that are not listed here do not have established limit values for ACGIH or OSHA PEL.

**US ACGIH Threshold Limit Values: Skin designation**

Diethanolamine (CAS 111-42-2)

Danger of cutaneous absorption

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**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 or drink.

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## 9. Physical and Chemical Properties

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<b>Appearance</b>	Aqueous solution.
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	dark blue / Purple
<b>Odor</b>	Slight amine
<b>Odor threshold</b>	Not available.
<b>pH</b>	10.1 (1% solution)
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	Not available.
<b>Other information</b>	
<b>Pour point</b>	Not available.
<b>Specific gravity</b>	1.1
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Flash point</b>	248.0 °F (120.0 °C)
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Miscible
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

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## 10. Stability and Reactivity

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**Reactivity** Do not mix with incompatible materials.

<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Conditions to avoid</b>	Do not mix with other chemicals.
<b>Incompatible materials</b>	Acids. Strong bases.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxides of nitrogen.

## 11. Toxicological Information

### Information on likely routes of exposure

<b>Inhalation</b>	No adverse effects due to inhalation are expected.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	May cause stomach distress, nausea or vomiting.

**Symptoms related to the physical, chemical and toxicological characteristics** Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

### Information on toxicological effects

#### Acute toxicity

Components	Species	Test Results
1,2-Propanediol (CAS 57-55-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, 24 Hours, ECHA
<i>Inhalation</i>		
LC50	Rabbit	> 317042 mg/m <sup>3</sup> , 2 Hours, ECHA
<i>Oral</i>		
LD50	Rat	22000 mg/kg, ECHA
Diethanolamine (CAS 111-42-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	11.9 ml/kg, HSDB
	Rat	8328 mg/kg, RTECS
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	1100 mg/kg, ECHA
Ethanol, 2,2',2'''-nitritotris- (CAS 102-71-6)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg, ECHA
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	6400 mg/kg, ECHA

**Skin corrosion/irritation** Prolonged skin contact may cause temporary irritation.

<b>Exposure minutes</b>	Not available.
<b>Erythema value</b>	Not available.
<b>Oedema value</b>	Not available.

**Serious eye damage/eye irritation** Direct contact with eyes may cause temporary irritation.

<b>Corneal opacity value</b>	Not available.
<b>Iris lesion value</b>	Not available.
<b>Conjunctival reddening value</b>	Not available.
<b>Conjunctival oedema value</b>	Not available.

<b>Recover days</b>	Not available.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not available.
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	See below.

**ACGIH Carcinogens**

Diethanolamine (CAS 111-42-2) A3 Confirmed animal carcinogen with unknown relevance to humans.

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Diethanolamine (CAS 111-42-2)

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Diethanolamine (CAS 111-42-2) Volume 77, Volume 101 - 2B Possibly carcinogenic to humans.

Ethanol, 2,2",2""-nitrioltris- (CAS 102-71-6) Volume 77 - 3 Not classifiable as to carcinogenicity to humans.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not classified.
<b>Chronic effects</b>	Non-hazardous by OSHA criteria.
<b>Further information</b>	Not available.

**12. Ecological Information**

**Ecotoxicity** See below

**Ecotoxicological data**

Components	Species	Test Results
1,2-Propanediol (CAS 57-55-6)		
Crustacea	EC50 Daphnia	10000 mg/L, 48 Hours
<b>Aquatic</b>		
Crustacea	EC50 Water flea (Daphnia magna)	> 10000 mg/L, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	710 mg/L, 96 hours
Diethanolamine (CAS 111-42-2)		
Algae	IC50 Algae	7.8 mg/L, 72 Hours
Crustacea	EC50 Daphnia	55 mg/L, 48 Hours
<b>Aquatic</b>		
Fish	LC50 Fathead minnow (Pimephales promelas)	100 mg/L, 96 hours
Ethanol, 2,2",2""-nitrioltris- (CAS 102-71-6)		
Algae	IC50 Algae	216 mg/L, 72 Hours
<b>Aquatic</b>		
Crustacea	EC50 Water flea (Ceriodaphnia dubia)	565.2 - 658.3 mg/L, 48 hours
Fish	LC50 Fathead minnow (Pimephales promelas)	10610 - 13010 mg/L, 96 hours

**Persistence and degradability** No data is available on the degradability of this product.

**Bioaccumulative potential** No data available.

**Partition coefficient n-octanol / water (log Kow)**

1,2-Propanediol	-0.92
Diethanolamine	1.43
Ethanol, 2,2",2""-nitrioltris-	-1

**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.

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### 13. Disposal Considerations

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<b>Disposal instructions</b>	Dispose of container in accordance with local, regional, national and international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	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).
<b>Contaminated packaging</b>	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.

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### 14. Transport Information

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#### U.S. Department of Transportation (DOT)

Not regulated as dangerous goods.

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### 15. Regulatory Information

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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.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Diethanolamine (CAS 111-42-2) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance** No

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**  
Not regulated.

**Other federal regulations**

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

Diethanolamine (CAS 111-42-2)

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

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**Food and Drug Administration (FDA)** Not regulated.

**US state regulations** See below

**US - Illinois Chemical Safety Act: Listed substance**

Diethanolamine (CAS 111-42-2)

**US - Louisiana Spill Reporting: Listed substance**

Diethanolamine (CAS 111-42-2) Listed.

**US - Minnesota Haz Subs: Listed substance**

1,2-Propanediol (CAS 57-55-6) Propylene glycol

Diethanolamine (CAS 111-42-2) Diethanolamine

Ethanol, 2,2",2""-nitrilotris- (CAS 102-71-6) Triethanolamine

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Diethanolamine (CAS 111-42-2)

Ethanol, 2,2",2""-nitrilotris- (CAS 102-71-6)

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

1,2-Propanediol (CAS 57-55-6)

Diethanolamine (CAS 111-42-2)

Ethanol, 2,2",2""-nitrilotris- (CAS 102-71-6)

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

1,2-Propanediol (CAS 57-55-6)  
 Diethanolamine (CAS 111-42-2)  
 Ethanol, 2,2",2""-nitritoltris- (CAS 102-71-6)

**US. Rhode Island RTK**

1,2-Propanediol (CAS 57-55-6)  
 Diethanolamine (CAS 111-42-2)  
 Ethanol, 2,2",2""-nitritoltris- (CAS 102-71-6)

**California Proposition 65**

**WARNING:** WARNING: This product can expose you to chemicals including diethanolamine, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**California Proposition 65 - CRT: Listed date/Carcinogenic substance**

Diethanolamine (CAS 111-42-2) Listed: June 22, 2012

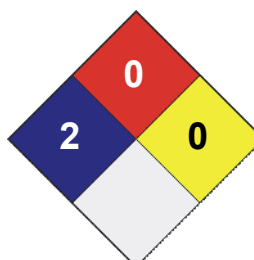
Country(s) or region	Inventory name	On inventory (yes/no)*
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

<b>HEALTH</b>	* 2
<b>FLAMMABILITY</b>	0
<b>PHYSICAL HAZARD</b>	0
<b>PERSONAL PROTECTION</b>	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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01

**Further information**

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

**Other information**

This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS). For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

**Prepared by**

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