


1. Identification

Product identifier	Colormetry Reagent Cartridge CMU-H2	
Other means of identification	Not available.	
Recommended use	Miscellaneous	
Recommended restrictions	None known.	
Manufacturer		
Company name	Miura Co.,Ltd	
Address	7 Horie-cho Matsuyama, Ehime 799-2696 Japan	
Telephone	+81-89-979-7123	
E-mail	Not available.	
Emergency phone number	Not available.	
Supplier	Miura Canada Co., Ltd. 4025 Sladeview Crescent, Unit 5&6 Mississauga, ON L5L 5Y1 CA Email: canada-customersupport@miuraz.com Fax: 905-607-8329 Phone: 905-607-4289 Toll Free: 800-666-2182 Emergency Phone: 613-996-6666 (CANUTEC) Transport	

2. Hazard identification

Physical hazards	Not classified.	
Health hazards	Acute toxicity, oral	Category 4
	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2
	Specific target organ toxicity, repeated exposure	Category 2
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	
Label elements		
Signal word	Danger	
Hazard statement	Causes serious eye irritation. Harmful if swallowed. Suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.	
Precautionary statement		
Prevention	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves, protective clothing, eye protection and face protection.	
Response	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. IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth. IF exposed or concerned: Get medical attention.	
Storage	Store locked up.	
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	%
Diethanolamine		111-42-2	0.5 - 1.5 *
Ethylene glycol		107-21-1	65 - 85 *
Octyl phenoxy poly(ethyleneoxy) ethanol		9002-93-1	0.5 - 1.5 *

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.
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4. First-aid measures

Inhalation	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Skin contact	Flush with cool water. Wash with soap and water. Obtain medical attention if irritation persists.
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	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
Most important symptoms/effects, acute and delayed	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Prolonged exposure may cause chronic effects.
Indication of immediate medical attention and special treatment needed	Symptoms may be delayed.
General information	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	Dry powder. Water fog. Foam. Carbon dioxide.
Unsuitable extinguishing media	Not available.
Specific hazards arising from the chemical	Not available.
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 carbon.

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. Do not breathe mist or vapor. 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. Never return spills to original containers for re-use. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. 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 mist or vapor. Use only with adequate ventilation. Avoid prolonged exposure. Observe good industrial hygiene practices. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store locked up. 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
Diethanolamine (CAS 111-42-2)	TWA	2 mg/m ³
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³

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

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	2 mg/m ³	
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol.
		50 ppm	Vapor.
	STEL	20 mg/m ³	Particulate.
	TWA	10 mg/m ³	Particulate.

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

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m ³	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction

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

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m ³	Aerosol, inhalable.

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

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.
Ethylene glycol (CAS 107-21-1)	Ceiling	127 mg/m ³	Vapor and mist.
		50 ppm	Vapor and mist.

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

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	15 minute	4 mg/m ³	
	8 hour	2 mg/m ³	
Ethylene glycol (CAS 107-21-1)	Ceiling	100 mg/m ³	Aerosol.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Diethanolamine (CAS 111-42-2)	TWA	1 mg/m ³	Inhalable fraction and vapor.
Ethylene glycol (CAS 107-21-1)	STEL	10 mg/m ³	Aerosol, inhalable.
	TWA	50 ppm 25 ppm	Vapor fraction Vapor fraction

US. NIOSH: Pocket Guide to Chemical Hazards

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

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

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

Diethanolamine (CAS 111-42-2) Danger of cutaneous absorption

Canada - Ontario OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

Diethanolamine (CAS 111-42-2) Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Diethanolamine (CAS 111-42-2) Danger of cutaneous absorption

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 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.

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 within a cartridge
Color	Black
Odor	Slight amine
Odor threshold	Not available.
pH	10
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available
Pour point	Not available.
Specific gravity	1.1
Partition coefficient (n-octanol/water)	Not available
Flash point	267.8 °F (131.0 °C)

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)	Miscible
Auto-ignition temperature	Potential at high-temperature
Decomposition temperature	Not available.
Viscosity	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	Strong oxidizing agents. Acids.
Hazardous decomposition products	May include and are not limited to: Oxides of carbon.

11. Toxicological information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.
Information on likely routes of exposure	
Ingestion	Harmful if swallowed.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	No adverse effects due to skin contact are expected.
Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Direct contact with eyes may cause temporary irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.
Information on toxicological effects	
Acute toxicity	Harmful if swallowed. Although animal toxicity values do not meet criteria, ethylene glycol is toxic to humans. There are numerous human case reports of toxicity and death published in the literature.

Components	Species	Test Results
Diethanolamine (CAS 111-42-2)		
Acute		
<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
Ethylene glycol (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	Mouse	> 3500 mg/kg, ECHA

Components	Species	Test Results
<i>Inhalation</i>		
LC50	Rat	> 2.5 mg/L, 6 Hours, ECHA
<i>Oral</i>		
LD50	Cat	1670 mg/kg, CCID - New Zealand
	Human	1110 - 1665 mg/kg, HSDB
	Rat	7712 mg/kg, ECHA
Octyl phenoxy poly(ethyleneoxy) ethanol (CAS 9002-93-1)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 3000 mg/kg
<i>Inhalation</i>		
LC50	Not available	
<i>Oral</i>		
LD50	Rat	1800 mg/kg, RTECS
Skin corrosion/irritation	Prolonged skin contact may cause temporary 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		
Ethylene glycol (CAS 107-21-1)		Irritant
Respiratory sensitization	Not available.	
Skin sensitization	This product is not expected to cause skin sensitization.	
Mutagenicity	Not classified.	
Carcinogenicity	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)		
Canada - Manitoba OELs: carcinogenicity		
Diethanolamine (CAS 111-42-2)		Confirmed animal carcinogen with unknown relevance to humans.
Canada - Quebec OELs: Carcinogen category		
Diethanolamine (CAS 111-42-2)		Detected carcinogenic effect in animals.
IARC Monographs. Overall Evaluation of Carcinogenicity		
Diethanolamine (CAS 111-42-2)		Volume 77, Volume 101 - 2B Possibly carcinogenic 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	May cause damage to organs through prolonged or repeated exposure.	
Aspiration hazard	Not classified.	
Chronic effects	Prolonged exposure may cause chronic effects.	

12. Ecological information

Ecotoxicity See below

Ecotoxicological data

Components		Species	Test Results
Diethanolamine (CAS 111-42-2)			
Algae	IC50	Algae	7.8 mg/L, 72 Hours
Crustacea	EC50	Daphnia	55 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	100 mg/L, 96 hours
Ethylene glycol (CAS 107-21-1)			
Crustacea	EC50	Daphnia	46300 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>)	8050 mg/L, 96 hours
Octyl phenoxy poly(ethyleneoxy) ethanol (CAS 9002-93-1)			
Aquatic			
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>)	2.8 - 3.2 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.

Canada Priority Substances List (Second List): Listed substance

Ethylene glycol (CAS 107-21-1) Listed.

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)

Diethanolamine (CAS 111-42-2) Listed.

Ethylene glycol (CAS 107-21-1) 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**SARA 311/312 Hazardous chemical** Yes**Classified hazard categories** Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Carcinogenicity
Specific target organ toxicity (single or repeated exposure)**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Ethylene glycol	107-21-1	65 - 85 *

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

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

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

Not regulated.

US state regulations See below**US - California Hazardous Substances (Director's): Listed substance**

Diethanolamine (CAS 111-42-2) Listed.

Ethylene glycol (CAS 107-21-1) Listed.

US - Illinois Chemical Safety Act: Listed substance

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

US - Louisiana Spill Reporting: Listed substance

Diethanolamine (CAS 111-42-2) Listed.

Ethylene glycol (CAS 107-21-1) Listed.

US - Minnesota Haz Subs: Listed substance

Diethanolamine (CAS 111-42-2) Listed.

Ethylene glycol (CAS 107-21-1) Listed.

US - Texas Effects Screening Levels: Listed substance

Diethanolamine (CAS 111-42-2) Listed.

Ethylene glycol (CAS 107-21-1) Listed.

Octyl phenoxy poly(ethyleneoxy) ethanol (CAS 9002-93-1) Listed.

US - Washington Chemical of High Concern to Children: Listed substance

Ethylene glycol (CAS 107-21-1)

US. Massachusetts RTK - Substance List

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

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

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

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

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

US. Rhode Island RTK

Diethanolamine (CAS 111-42-2)

Ethylene glycol (CAS 107-21-1)

US. California Proposition 65**WARNING:** This product can expose you to chemicals including diethanolamine, which is known to the State of California to cause cancer, and ethylene glycol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Diethanolamine (CAS 111-42-2)

Listed: June 22, 2012

California Proposition 65 - CRT: Listed date/Developmental toxin

Ethylene glycol (CAS 107-21-1)

Listed: June 19, 2015

Inventory status

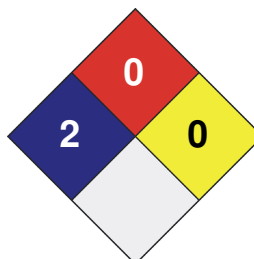
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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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Further information

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

Other information

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