

Safety Data Sheets

1. Identification

Product Name : Maintenance Liquid 14
Order No. : ML014-Z-BA / ML014-Z-K1 / ML014-Z-22
General Use : Maintenance Liquid for ink jet printer
Product Description : Solvent clear liquid
SDS Number : 037-C035544
Manufacture
Company Name : Mimaki Engineering Co., Ltd.
Address : 2182-3 Shigeno-otsu, Tomi-shi, Nagano 389-0512 JAPAN
Telephone No. : +81-268-64-2413
Importer / Distributor Established in Australia
Company Name : MIMAKI AUSTRALIA PTY LTD.
Address : Unit 14, 38-46 South Street, Rydalmere, NSW 2116, Australia
Telephone No. : + 61-2-8036-4500
Emergency Telephone No. : +61 2 8014 4558 (within Australia only)
18000 74234 (within Australia only)
+65 3158 1074

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids : Category 4

Health Hazards

Eye Damage / Irritation : Category 2

Specific Target Organ Toxicity : Category 3

(Single Exposure) (Respiratory irritation, drowsiness or dizziness)

The above list does not include category being non-classifiable or not-applicable.

[GHS Label Elements]

Symbol



Safety Data Sheets

Signal Word
 Warning

Hazard Statements

- H227 Combustible liquid
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation
- H336 May cause drowsiness or dizziness

Precautionary Statements

- [Prevention]
- P210 Keep away from open flames and other ignition sources. No smoking.
 - P261 Avoid breathing gas/mist/vapours.
 - P264 Wash hands and eyes thoroughly after handling.
 - P271 Use only outdoors or in a well-ventilated area.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
- [Response]
- P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.
 Remove contact lenses, if present and easy to do. Continue rinsing.
 - P312 Call a POISON CENTER/doctor if you feel unwell.
 - P337+P313 If eye irritation persists: Get medical advice/attention.
 - P370+P378 In case of fire: Use Alcohol-resistant-related fire foam for extinguish.
- [Storage]
- P403+P233+P235 Store in a well-ventilated place. Keep container tightly closed.
 Keep cool.
 - P405 Store locked up.
- [Disposal]
- P501 Dispose of contents and container in accordance with local, regional, national and international regulation (to be specified).

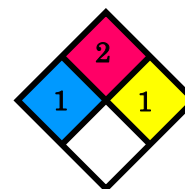
HMIS Rating (scale 0 – 4)

Health = 1
 Flammability = 2
 Reactivity = 1
 Protective Equipment = B

1	Health
2	Flammability
1	Reactivity
B	Protective Equipment

NFPA Rating (scale 0 – 4)

Health = 1
 Flammability = 2
 Instability = 1
 Special = 0



CANADIAN WHMIS SYMBOLS : Not applicable (Manufactured article)

3. Composition / Information on Ingredients

Mixtures

Chemical Name	Wt%	CAS No.	Chemical

Safety Data Sheets

			Formula
Bis(2-ethoxyethyl)ether	35-45	112-36-7	C ₇ H ₁₆ O ₃
(2-Methoxymethylethoxy)propanol	35-45	34590-94-8	C ₈ H ₁₈ O ₃
Triethylene glycol monomethylether	15-25	112-35-6	C ₇ H ₁₆ O ₄

4. First Aid Measures

Skin Contact	: Immediately take off all contaminated clothing. Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Wash thoroughly the body (shower or bath). Remove contaminated clothing immediately and dispose off safely. After contact with skin, wash immediately with soap and plenty of water.
Eye Contact	: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Ingestion	: Do not under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.
Inhalation	: Remove casualty to fresh air and keep warm and at rest.
Most important symptoms and effects, both acute and delayed	: none
Indication of any immediate medical attention and special treatment needed	: In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Treatment: None

5. Fire Fighting Measures

Flammable Properties	: Flash point : 76 °C / 169 ° F
Extinguishing Media	: CO ₂ or Dry chemical fire extinguisher.
Unsuitable Extinguishing Media	: None in particular.
Special hazards arising	: Do not inhale explosion and combustion gases.

Safety Data Sheets

from the substance or mixture
Burning produces heavy smoke.

Advice for firefighters : Use suitable breathing apparatus .
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Move undamaged containers from immediate hazard area if it can be done safely.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures : Wear personal protection equipment.
Remove persons to safety.
See protective measures under point 7 and 8.

Environmental precautions: : Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.
Retain contaminated washing water and dispose it.
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.
Suitable material for taking up: absorbing material, organic, sand

Methods and material for containment and cleaning up : Wash with plenty of water.

Reference to other sections : See also section 8 and 13

7. Handling and Storage

Precautions for safe handling : Avoid contact with skin and eyes, inhalation of vapours and mists.
Don't use empty container before they have been cleaned.
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.
Contaminated clothing should be changed before entering eating areas.
Do not eat or drink while working.
See also section 8 for recommended protective equipment.

Conditions for safe : Keep away from food, drink and feed.

Safety Data Sheets

storage, including any incompatibilities	Incompatible materials: None in particular. Instructions as regards storage premises: Adequately ventilated premises.
Specific end use(s)	: None in particular

8. Exposure Controls / Personal Protection

Control parameters	: No occupational exposure limit available
DNEL Exposure Limit Values	: Bis(2-ethoxyethyl) ether - CAS: 112-36-7 Worker Industry: 5.96 mg/m ³ - Exposure: Human Inhalation Worker Industry: 1.71 mg/kg/day - Exposure: Human Oral Worker Professional: 50.05 mg/m ³ - Exposure: Human Inhalation - Frequency: Long Term, systemic effects Worker Professional: 3.43 mg/kg/day - Exposure: Human Dermal - Frequency: Long Term, systemic effects
PNEC Exposure Limit Values	: Bis(2-ethoxyethyl) ether - CAS: 112-36-7 Target: Fresh Water - Value: 0.001 mg/l Target: Freshwater sediments - Value: 0.007 mg/kg Target: Marine water - Value: 0.0001397 mg/l Target: Marine water sediments - Value: 0.0006778 mg/kg Target: Air - Value: 0.000001105 mg/m ³

Legend:

DNEL: Derived No Effect Level, PNEC: Predicted No Effect Concentration

Exposure Controls

Occupational Exposure Controls

Engineering Controls	: Use exhaust ventilation to avoid from exposure.
Eye protection	: Not needed for normal use. Anyway, operate according good working practices.
Protection for skin	: Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.
Protection for hands	: Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.
Respiratory protection	: Not needed for normal use.
Thermal Hazards	: none
Environmental	: none

Safety Data Sheets

exposure controls

9. Physical and Chemical Properties

[Information on basic physical and chemical properties]

Appearance	- Physical State	: liquid
	- Color	: Clear
Odor		: Slightly
Odour threshold		: No data available
pH		: Not Relevant
Melting point / freezing point		: No data available
Initial boiling point and boiling range		: No data available
Solid/gas flammability		: No data available
Upper/lower flammability or explosive limits		: No data available
Vapour density		: No data available
Flash point		: 76 °C / 169 ° F (Cleveland open cup method, JIS K2265-4)
Evaporation rate		: No data available
Vapour pressure		: No data available
Relative density		: No data available
Solubility in water		: Slightly soluble
Solubility in oil		: No data available
Partition coefficient (n-octanol/water)		: No data available
Auto-ignition temperature		: No data available
Decomposition temperature		: No data available
Viscosity		: No data available
Explosive properties		: No data available
Oxidizing properties		: No data available

[Other information]

Miscibility		: No data available
Fat Solubility		: No data available
Conductivity		: No data available

10. Stability and Reactivity

Reactivity	: Stable under normal conditions.
Chemical stability	: Stable under normal conditions.

Safety Data Sheets

Possibility of hazardous reactions : none

Conditions to avoid : Stable under normal conditions.

Incompatible materials : None in particular.

Hazardous decomposition products : none

11. Toxicological Information

[Information on toxicological effects]

Toxicological information of the mixture

acute toxicity : Test: LD50 - Route: Oral - Species: Rat > 2500 mg/kg
Test: LD50 - Route: Dermal - Species: Rat > 2000 mg/kg

skin : Test: Skin Irritant - Species: Rabbit Mild irritant

corrosion/irritation

serious eye : Test: Eye Irritant - Species: Rabbit Mild irritant

damage/irritation

respiratory or skin sensitisation : Test: Skin Sensitisation - Route: Maximisation Assay - Species: Guinea pig Non-sensitiser

germ cell mutagenicity : Test: Mutagenesis - Species: Salmonella Typhimurium and Escherichia coli Negative

Toxicological information of the main substances found in the mixture

Bis(2-ethoxyethyl) ether - CAS: 112-36-7

acute toxicity : Test: LD50 - Route: Oral - Species: Rat = 4970 mg/kg - Notes: OECD TG No.401

serious eye damage/irritation : Test: Eye Irritant - Species: Rabbit Non-irritant - Notes: OECD TG No.405

Triethylene glycol monomethylether - CAS: 112-35-6

acute toxicity : Test: LD50 - Route: Oral > 10500 mg/kg

Substance(s) listed on the IARC Monographs

: None.

12. Ecological Information

Handling is noted because it might influence the environment when leaking and abandoning it. Especially, note that the product doesn't flow directly to ground, the river, and the drain ditch.

Toxicity : **Bis(2-ethoxyethyl) ether - CAS: 112-36-7**

Safety Data Sheets

	Aquatic acute toxicity
	Endpoint: LC50 - Species: Fish > 10000 mg/l - Duration h: 96
	Endpoint: LC50 - Species: Daphnia = 6600 mg/l - Duration h: 96
Persistence and Degradability	: No data available
Bioaccumulative Potential	: No data available
Mobility in soil	: No data available
Results of PBT and vPvB assessment	: vPvB Substances: None - PBT Substances: None
Other Adverse Effects	: none.

13. Disposal Considerations

Waste treatment methods	: Recover if possible. In so doing, comply with the local and national regulations currently in force.
-------------------------	--

14. Transport Information

Check a thing without a leak in a container.	
Perform prevention of collapse of cargo surely.	
UN number	: Not classified as dangerous in the meaning of transport regulations.
UN proper shipping name	: No data available.
Transport hazard class(es)	: No data available.
Packing group	: No data available.
Environmental hazards	: No data available.
Special precautions for user	: No data available.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	: No data available.

Safety Data Sheets

15. Regulatory Information

[EU Information]

: Dir. 98/24/EC (Risks related to chemical agents at work)
 Dir. 2000/39/EC (Occupational exposure limit values)
 Regulation (EC) n. 1907/2006 (REACH)
 Regulation (EC) n. 1272/2008 (CLP)
 Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013
 Regulation (EU) 2015/830
 Regulation (EU) n. 286/2011 (ATP 2 CLP)
 Regulation (EU) n. 618/2012 (ATP 3 CLP)
 Regulation (EU) n. 487/2013 (ATP 4 CLP)
 Regulation (EU) n. 944/2013 (ATP 5 CLP)
 Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII
 Regulation (EC) 1907/2006 (REACH) and subsequent modifications

Restrictions related to the product : Restriction 3

Restrictions related to the substances contained : No restriction

Where applicable, refer to the following regulatory provisions : Directive 2003/105/CE ('Activities linked to risks of serious accidents') and subsequent amendments.
 Regulation (EC) nr 648/2004 (detergents).
 1999/13/EC (VOC directive)

:
 Provisions related to directives : No data available
 82/501/EC(Seveso),
 96/82/EC(Seveso II)

[USA Information]

TSCA - Toxic Substances Control Act : TSCA inventory: all the components are listed on the TSCA inventory.
 TSCA listed substances: Bis(2-ethoxyethyl) ether is listed in TSCA Section 5a - SNUR, Section 12b
 (2-Methoxymethylethoxy)propanol is listed in TSCA Section 8a - PAIR.

Safety Data Sheets

SARA - Superfund Amendments and Reauthorization Act : Section 302 – Extremely Hazardous Substances: no substances listed.

Section 304 – Hazardous substances: no substances listed.
Section 313 – Bis(2-ethoxyethyl) ether, Triethylene glycol monomethylether.

CAA - Clean Air Act : CAA listed substances:
Bis(2-ethoxyethyl) ether is listed in CAA Section 111, Section 112.
Triethylene glycol monomethylether is listed in CAA Section 112, Section 112(b) - HAP, Section 112(b) - HON.

California Proposition 65 : Substance(s) listed under California Proposition 65: None.

[Canada Information]

WHMIS Controlled Product : Not applicable (Manufactured article)

[Australia Information]

Statement of Hazardous Nature : Classified as Toxic and Irritant according to criteria of NOHSC

[New Zealand Information]

Hazardous Substances and New Organisms Act 1996 : Not regulated

Chemical safety assessment : No.

16. Other Information

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Mimaki Engineering Corporation.

It relates only to the specific material designated herein, and does not relate to use in combination with any other material or process.

Mimaki Engineering Corporation assumes no legal responsibility for use or reliance upon this information.