Safety Data Sheets

1. Identification

Product Name	: Maintenance Liquid 09
Order No.	: ML009-Z-K1
General Use	: Cleaning solution for ink jet printer
Product Description	: Aqueous liquid
SDS Number	: 037-C040335
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 USA	
Company Name	: MIMAKI USA, INC.
Address	: 4851 Thurmon Tanner Parkway, STE 100 Flowery Branch, GA 30542, U.S.A.
Telephone No.	: +1-678-730-0170
Emergency Telephone No.	: +1 866 928 0789 (within United States only, Toll free) +1 215 207 0061

2. Hazards Identification

[GHS Classification]

Physical Hazards

Flammable Liquids	: Category 4

Health Hazards

Acute Toxicity – Oral	: Not classified
Acute Toxicity – Dermal	: Not classified
Acute Toxicity – Inhalation	: Not classified
Skin Corrosion / Irritation	: Not classified
Eye Damage / Irritation	: Category 2
Sensitization – Skin	: Not classified
Germ Cell Mutagenicity	: Not classified
Toxic to Reproduction	: Not classified
Specific Target Organ Toxicity (Single Exposure)	: Category 2 (central nervous system)

Safety Data Sheets

Environmental Hazards

Hazardous to the Aquatic Environment - Acute Hazard	: Not classified
Hazardous to the Aquatic Environment - Long Term Hazard	: Not classified

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

[GHS Label Elements]

Symbol

Signal Word

Warning

Hazard Statements

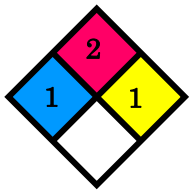
H227 Combustible liquid
H319 Causes serious eye irritation
H371 May cause damage to organs (central nervous system)

Precautionary Statements

[Prevention]
P210 Keep away from heat/sparks/open flames/hot surfaces.-No smoking.
P260 Do not breathe gas/mist.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
[Response]
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.
P337+P313 If eye irritation persists: Get medical advice/attention.
P370+P378 In case of fire: Use water spray, sands, foam, dry chemical powder or carbon dioxide for extinguish.
[Storage]
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
[Disposal]
P501 Dispose of contents/container in accordance with local/regional/national/ international regulation(to be specified).

NFPA Rating (scale 0 – 4)

Health = 1
Flammability = 2
Instability = 1
Special =



3. Composition / Information on Ingredients

Substance or Mixture : Substance

No	Chemical Name	Wt%	CAS No.
1	Diethyleneglycol monobutyl ether	100	112-34-5

OSHA Hazardous Components (29 CFR 1910. 1200) :Component 1 is not hazardous component.

4. First Aid Measures

Inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician. Get medical advice/attention if you feel unwell.

Eye Contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical advice/attention.

Skin Contact : Remove/Take off immediately all contaminated clothing.
Rinse skin with water/shower. Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.

Ingestion : Immediately call a POISON CENTER or doctor/physician.

5. Fire Fighting Measures

Flammable Properties	: Combustible liquid. Flash point : 78℃ (Method : Closed cup) Upper/lower flammability or explosive limits : 0.4 - 24.6 vol% Auto-ignition : 224℃ During combustion: Harmful or toxic vapors (e.g. Carbon monoxide) are released.
Extinguishing Media	: Use water spray, sand, foam, dry chemical powder or carbon dioxide. (Unsuitable media ; Straight spray)
Fire Fighting Instructions	: Wear full fire-fighting turn-out gear (full bunker gear) and respiratory protection (self-contained breathing apparatus). Keep personal removed from and up wind of fire.

6. Accidental Release Measures

Personal precautions, protective equipment and emergency Procedures	: Wear proper protective equipment, keep personal removed from. - Avoid contact with skin and eyes - Appropriate gloves - Safety glasses - Shuts off all sources of ignition
Environmental precautions	: Large Spill: Dike far ahead of liquid spill for later recovery and disposal. Prevent entry into waterways, sewers, basements or confined areas.
Methods and materials for containment and cleaning up	: Do not wash away into public drainage way or river. Shut off all sources of ignition; No smoking or flames in area. Absorb spill with inert material (e.g., dry sand or earth), then place in closed containers using non-sparking tools. Flush residual spill (area) with copious amounts of water.

7. Handling and Storage

Handling : Wear proper protective equipment.
Avoid contact with eyes and other membranes.
In case of handle indoor, required local exhaust.
Keep away from heat, sparks and open flame.-No smoking
Do not breath gases, vapor and spray using in warming, especially.
Make available in the work area emergency shower and eyes wash.

Storage : Close up tight and store it in Fireproof construction warehouse.
Please, use early if opened the vessel.
Exercise routine care in accordance with good industrial hygiene practice.
Keep away from combustible materials and sources of ignition.
Store in a well-ventilated place. Keep cool. Store locked up.

8. Exposure Controls / Personal Protection

Exposure Limit Values

No	Chemical Name		Occupational exposure limit values
1	Diethyleneglycol monobutyl ether	ACGIH TLV	TWA : 10ppm (inhalable fraction and vapor)
		JSOH	Not applicable
		OSHA PEL	Not applicable

Exposure Controls

Occupational Exposure Controls

Engineering Controls : Use exhaust ventilation to keep airborne concentration below exposure limits.

Personal Protection

Respiratory Protection : An air purifying respirator with organic vapor cartridge or canister may be permissible under certain circumstances where air-borne concentrations are expected to exceed exposure limits.
Protection provided by air purifying respirators is limited.
Use a positive-pressure, air-supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or in any other circumstances where air-purifying respirators may not

provide adequate protection.

Hand Protection : Impervious gloves recommended.

Eye Protection : Wear coverall, chemical goggles and face shield when handling.

Skin Protection : To prevent any contact, wear impervious clothing such as gloves, apron, safety shoes, or whole body suits made from neoprene, as appropriate.

Environmental Exposure Controls
: Not available

9. Physical and Chemical Properties

Appearance	- Physical State	: liquid
	- Color	: clearness
Odor		: Slightly specific odor.
pH		: Not available
Melting Point / Melting Range		: -76℃
Boiling point		: 230℃
Flash Point		: 78℃ (Method : Closed cup)
Auto ignition temperature		: 224℃
Upper / Lower Flammability or Explosive Limits		: 0.4～24.6vol%
Vapor Pressure		: Below 0.1kPa (20℃)
Relative Density		: 0.952g/cm^3 (20℃)
Solubility		: Soluble to water
Viscosity		: 6.6mPa･s(20℃)
Surface tension		: 29.1mN/m(25℃)
Refractive index		: 1.4309(20℃)
Specific heat		: 2.29J/g (25℃)

Vapor latent heat : 311J/g(1013hPa)

10. Stability and Reactivity

Conditions to Avoid : High temperature. Left with opened cap. Store of outdoor.
Stability : Stable usually.
Materials to Avoid : Strong oxidizing agent.
Hazardous Reactions / Decomposition Products : Reacts intensely with the strong oxidizing agent.

11. Toxicological Information

Acute Toxicity :

Oral (rat)	Dermal (rat)
LD50>5000mg/kg	LD50>2000mg

Eye Irritation : It admitted to produce moderate irritating and damage to ocular tissue in rabbit eye irritation test and it recovered in 14 days （ECETOC TR. 64(1995)、PATTY(5th, 2001), and other test is produced highly irritating（IUCLID(2000)）.

Skin Irritation : Mild irritating and not irritating is obtained in rabbit skin irritation test(IUCLID(2000) 、BUA(1997) 、HSDB(2997)) and it caused erythema a part of subject in human patch test （DFGOT VII(1992)、ECETOC TR. 64(1995)、HSDB(2007)).

Skin Sensitization : Non sensitizer in guinea pig maximization test. (ECETOC TR. 64 1995)

Respiratory Sensitization : Not Available

Germ cell mutagenicity : The result of the micronucleus test using mouse bone-marrow cells, which is an in vivo mutagenicity test using somatic cells, is negative (DFGOT VII 1992).

Mutagenicity : Not Available

Carcinogenicity : Not Available

Reproductive and Developmental Toxicity : The bat effect to exposure test materials were not admitted by one-generation reproductive test using rat by oral route(OECD TG 415), one-generation reproductive test by dermal route and 13 weeks

	dosage reproductive test (DFGOT VII(1992), EU-RAR(1997), HSDB (2007)).
Specific target organ toxicity (single exposure)	: The central nervous system symptom and kidneys disorders is reported as acute symptoms (DFGOT VII(1992)).
Specific target organ toxicity (repeated exposure)	: The serious effect to 6 weeks(only male rat) and 13 weeks repeated oral administration test using rats (NOAEL ; 891mg/kg/day (cutoff value ; 217mg/kg/day) and 250mg/kg/day) (DFGOT VII(1992)、HSDB(2007))
Aspiration hazard	: Not Available

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.

Ecotoxicity	: LC50(96h) =1300mg/L of fishes (Lepomis macrochirus) EC50(48h) >100mg/L of crustacea (Daphnia magna) EC50(96h) >100 mg/L of algae (Scenedesmus)（EU-RAR, 1999）
Persistence and Degradability	: BOD_5=880mg/L(1g/L soln.), COD_{Mn}=880mg/L (1g/L soln.)
Bioaccumulative Potential	: Water solubility=1,000,000mg/L（PHYSPROP Database、2008）
Other Adverse Effects	: Not Available

13. Disposal Considerations

Steps to be taken in case material is released or spilled	: Absorb spills with suitable absorbent like a piece of waste clothes.
Waste disposal method	: Scrap materials may be disposed by licensed contractor or burn in an approved incinerator. Comply with all USA, national and local regulations. Do not dump this product into sewers, on the ground or into any body of water.

Neutralizing Chemicals	: Generally not required.

14. Transport Information

	Check a thing without a leak in a container.
	Perform prevention of collapse of cargo surely.
UN Number	: Not applicable.
Proper Shipping Name	: Not applicable.
Class	: Not applicable.
Packing Group (PG)	: Not applicable.
Environmental hazard	: Not applicable.
Export HS-code	: 2909.19-000
(Reference information)	(Refer to "About the Export HS code" of Sec. 16)

Transport in bulk (according to Annex Ⅱ of MARPOL 73/78 and the IBC code.)

	: Poly(2-8)alkylene glycol monoalkyl(C1-C6) ether
Others	: Follow all regulations in your country.

15. Regulatory Information

OSHA Status	: This product is not hazardous under 29 CFR 1910. 1200.
TSCA Status	: TSCA INVENTORY : Listed.
	HSP (40 CFR 721.72)(SNURs) : Not Applicable
CERCLA Reportable Quantity (40 CFR 302)	: No RQ is assigned to this generic or broad class, although the class is a CERCLA hazardous substance. (related to Glycol ethers)
SARA TitleⅢ	
Section 302 (40 CFR 355)	: Not Applicable
Section 313 (40 CFR 372)	: Listed.
US CAA Section 111 Volatile Organic Compounds	: Listed.
California Proposition 65	: Not Applicable
Canada WHMIS	: Classifications of Substances B3, D2B

	: Ingredient Disclosure List: 1% (Minimum Concentration)
Others	: Please refer to any other federal, state and local regulations.

16. Other Information

References	1) Chemical Risk Information Platform (CHRIP) ; (National Institute of Technology and Evaluation (Japan)) 2) Possession data 3) Result of the GHS classification in Japan (National Institute of Technology and Evaluation)
About the Export HS code	: Though the Export HS code has been described as reference information, another code might be applicable because of the interpretation and the usage, etc. After selecting the Export HS code in the responsibility of the exporter to export, please correspond appropriately according to the instruction of the customs.

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