

Ref No.	ERASER - PRO	Date Prepared	27-Oct-09
3759-03	Yokohama Oils & Fats Industry	Date Revised	10-Jun-16

Ver. 11_08

Safety Data Sheet (S D S)

1. PRODUCT AND COMPANY IDENTIFICATION

Product ID	ERASER - PRO
Product Code	3759
Company Name	Yokohama Oils & Fats Industry Co., LTD.
Address	1-1 Minamisengen-cho, Nishi-ku, Yokohama,
Department in Charge	Department of Technology & Development
Personnel in Charge	Hajime Hirasawa
Phone	+81-45-311-4701
Fax	+81-463-89-1330
Emergency Contact	+81-45-311-4704
Recommended Use and Usage Restrictions	Deodorant sterilization chemical for air conditioners.
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2. HAZARDS IDENTIFICATION

GHS Category

Aerosols	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Specific target organ toxicity (repeated exposure)	Category 1
Specific target organ toxicity (repeated exposure)	Category 2

* Items unmentioned are either out of category, not classified, or classification not possible.

GHS label elements

Symbol



Signal word

Danger

Hazard statement

Flammable aerosol
 Pressurized container: may burst if heated
 Causes serious eye irritation
 May cause respiratory tract irritation or may cause drowsiness/dizziness
 Causes damage to organs through prolonged or repeated exposure (liver)
 May cause damage to organs through prolonged or repeated exposure (nervous)

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3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical substance • Single / Mixture

• Mixture

Component / Chemical Name	Content (wt%)	CAS No.	MITI No.
Ethanol	50~60	64-17-5	(2)-202
Sterilization chemical	<1	registered	registered
Dodecan-1-yl methacrylate	<1	142-90-5	(2)-1039
Propane-1,2-diol	<1	57-55-6	(2)-234
Proane	1.0~10	74-98-6	(2)-3
Butane	20~30	106-97-8	(2)-4
Propan,2-methyl-	1.0~10	75-28-5	(2)-4

Substances subject to notification restricted by PRTR Law

Not applicable Contains no applicable substances

Poisonous and Deleterious Substances Control Law

Not applicable Contains no applicable substance

Industrial Safety and Health Law

Subject to notification : Article 57-2 of Act, appended table 9 of article 18 of Order
Harmful substance subject to notification

No.	Substance Name	Content
61	Ethanol	50~60%
482	Butane	20~30%

Ordinance on the Prevention of Organic Solvent Poisoning

Not applicable Contains no applicable substance

4. FIRST AID MEASURES

IF MASSLY INHALED

- If you feel unwell after inhaling, remove to fresh air and keep at rest in a position comfortable for breathing.
- Seek medical attention if you do not recover from illness.
- If victim feels drowsiness or dizziness, remove to fresh air and keep at rest in a position comfortable for breathing.
- If victim vomits, and is still breathing, turn head sideways.
- If victim is breathing weak, give artificial respiration or oxygen inhalation.
- Symptoms may lag behind from the time of inhalation.
- Seek medical attention if above symptoms appear.

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IF ON SKIN

- Flush immediately with water and wash thoroughly with soap.
- Remove/take off immediately all contaminated clothing and flush skin with water.
- Product is flammable; take precautions against fire during treatment.
- Seek medical attention if you feel unwell.
- Wash contaminated clothing before reuse.

IF IN EYES

- Rinse eyes with clean water for at least 15 minutes. Use fingers to open eyelid and wash thoroughly throughout every part of the eye including eyeball and eyelid.
- Remove contact lenses unless firmly stuck to the eye and continue to rinse.
- Seek medical attention after rinsing.
- Seek immediate medical attention if you have severe pain.

IF SWALLOWED

- Immediately rinse mouth with water.
- Seek immediate medical attention.
- Do not induce vomiting.
- Seek immediate medical attention if a child has possibly swallowed the product.

MOST IMPORTANT SIGN AND SYMPTOM

- None in particular

PROTECTION FOR FIRST-AIDERS

- None in particular

SPECIAL PRECAUTIONS FOR PHYSICIANS

- None in particular

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

- Powder-type media, foam-type media, carbon dioxide, dry chemical

FORBIDDEN MEDIA

- Do not use water for fire-fighting.
- Water spray is usable for cooling, but do not direct a solid stream of water on material.

SPECIFIC HAZARDS FOR FIRE

- Avoid inhalation of smoke during fire-fighting. Combusted gas includes toxic gas such as carbon monoxide or nitrogen oxide.
- Evacuate immediately. Possible risk of explosion when ignited.

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SPECIFIC FIRE-FIGHTING PROCEDURE

- Take fire-fighting procedures from upwind as much as possible.
- Evacuate unauthorized people from the area and lead them to a safe place.
- Move container from fire area if it can be done without risk.
- Seal off the area to unauthorized people.
- Cool surrounding area with water spray to prevent temperature rising of peripheral facilities that could be caused by radiation heat.
- Take appropriate measures to prevent environment-affecting substances from flowing out.
- Container may burst by heat. Take measures from a safe distance.

PROTECTION FOR FIRE-FIGHTERS

- Apply suitable equipment such as gloves, goggles, and mask.
- Take procedures from upwind and avoid inhalation of toxic gas. Wear respiratory equipment as needed.

6. ACCIDENTAL RELEASE MEASURES

PRECAUTIONS FOR HUMAN BODY, PROTECTIVE EQUIPMENT AND EMERGENCY MEASURES

- Ventilate area until well after the fire is out.
- Wear gloves, goggles, and protective clothing when taking measures against leakage.
- Seal off the spilled area by stretching ropes.
- Wear suitable equipment to avoid skin contact and inhalation of dust /gas.
- Take measures from upwind and evacuate unprotected personnel from downwind.
- Prepare extinguishing tools and equipments for possible ignition.
- Watch your step ; spilled area is slippery.

TO PREVENT ENVIRONMENTAL POLLUTION

- Do not let spills flow into rivers to prevent environmental contamination.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

COLLECTION AND NEUTRALIZATION

- Small amount release ; absorb spills with absorbant (sawdust, soil, sand, cloth, etc.) and wipe remains with cloth. Collect absorbants in a sealable container for disposal.
- Large amount release ; prevent outflow by mounting soil and take procedures after channelling it to a safe place.
- Absorb remains with soil or sawdust.
- Contaminated materials and waste must be disposed in compliance with all relevant regulations.

TO PREVENT SECONDARY DISASTER

- In case of accidental release, you must report to relevant authority without delay in order to prevent possible accident and expansion.
- Swiftly remove possible source of combustion and prepare extinguishing media.
- Use safe spark-proof tools.

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7. HANDLING AND STORAGE

HANDLING

Technological Countermeasures

- Read thoroughly the usage precautions. Do not use product for other purposes.
- Do not punch holes or burn while or after using.
- Do not spray toward open flame or heated incandescent body.
- Keep away from combustion sources such as heat, spark, or flame.
- Do not spray for longer period than prescribed time.
- Do not use in rooms using fire.
- Do not inhale dust, smoke, gas, mist, vapor, or fume.
- Do not spray toward human body. Do not directly inhale sprayed fume.
- Use at outdoors or well-ventilated areas.
- Do not eat, drink, or smoke while handling.

STORAGE

CONDITION FOR SAFE STORAGE

- Read storage conditions on label and store properly.
- Keep away from direct sunlight. Avoid exposing to temperature over 40 deg.
- Keep locked up.
- Do not store at humid area or area where container is likely to corrode.

SAFE PACKAGE MATERIALS

- None in particular

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

FACILITY MEASURES

- Local ventilation system is required for vapor/smoke/mist releasing conditions.
- Local ventilation system is required for indoor use.

Blanks and “-” is equal to “no data”.

Component/Chemical Name	Control Limit	Exposure Limit
Ethanol	—	ACGIH(2006)TLV—TWA 100ppm 1880mg/m3
Sterilization chemical	—	—
Dodecan-1-yl methacrylate	—	—
Propane-1,2-diol	—	—
Propane	—	ACGIH(2005) TLV—TWA 1000ppm
Butane	—	ACGIH(2005) TLV—TWA 800ppm
Propan,2-methyl-	—	ACGIH TWA 250ppm (2009)

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PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection

•Wear protective mask. Wear filter respirator, chemical cartridge respirator, or respirator for organic solvent as needed.

Hand Protection

•Wear protective gloves. Wear solvent-resistant gloves or vinyl gloves as needed.

Eye Protection

•Wear protective goggles. Wear chemical goggles or face shield as needed.

Skin and body protection

•Wear body suit or protective apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: Solution/Minute yellow transparency. Pressure carrier/Colorless transparent.
Odour	: Solution/Alcohol odor. Pressure carrier/Not available
Odour threshold	: Not available
pH	: None
Melting Point/Freezing Point	: Solution/Not available. Pressure carrier/Propane -189.7°C n-Butane -138°C Iso butane -160°C
Boiling Point, Boiling Range	: Solution/Not available. Pressure carrier/Propane -42°C n-Butane -0.5°C Iso butane -12°C
Flash Point	: Solution/13°C Pressure carrier/Propane -104°C n-Butane -60°C Iso butane -83°C
Auto-Ignition Temperature	: Solution/Not available Pressure carrier/Propane 450°C n-Butane 287°C Iso butane 460°C
Flammability	: Not available
Flammable/Explosive Limit	: Solution/Not available Pressure carrier/Propane 2.1~9.5vol% n-Butane 1.8~8.4vol% Iso butane 1.8~8.4vol%
Vapor Pressure	: Solution/Not available Pressure carrier/0.30MPa(20°C)
Vapor Density	: Solution/Not available Pressure carrier/Propane 1.6 n-Butane 2.1 Iso butane 2.0 (air=1)
Evaporation Rate	: Not available
Specific Gravity	: Solution/0.80 (20°C) Pressure carrier/0.556 (20°C)
Solubility	: Solution/Soluble Pressuer carrier/Propane 0.07g/ml n-Butane 0.006g/100ml Iso butane Insoluble
Partition Coefficient n-Octanol/Water	: Solution/Not available Pressure carrier/Propane 2.36 (logPow) n-Butane 2.89 (logPow) Iso butane 2.80 (logPow)
Decomposition Temperature	: Not available
Viscosity	: Not available
Other Data	: Not available

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10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

- Stable under usual handling condition.

Possibility of Hazardous Reactions

- None in particular

Conditions to Avoid

- None in particular

Incompatible Materials

- None in particular

Hazardous Decomposition Products

- None in particular

Others

- None in particular

11. TOXICOLOGICAL INFORMATION

Toxicological Information of Individual Component : Blank means "below cutoff limit set by GHS or no data".

Component/ Chemical Name	Acute Toxicity (Oral)	Acute Toxicity (Dermal)	Acute Toxicity (Inhalation : gas)	Acute Toxicity (Inhalation : vapor)	Acute Toxicity (Inhalation : dust, mist)	Skin Corrosiveness/ Irritation	Serious Eye Damage/ Eye Irritation
Ethanol	Not classified	Classification not possible	Not applicable	Not classified	Not classified	Not classified	Category2A-2B
Sterilization chemical	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Dodecan-1-yl methacrylate	Not classified	Classification not possible	Not applicable	Classification not possible	Classification not possible	Classification not possible	Category2A-B
Propane-1,2-diol	Not classified	Not classified	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Proane	Not applicable	Not applicable	Not classified	Not applicable	Not applicable	Not classified	Classification not possible
Butane	Not applicable	Not applicable	Not classified	Not applicable	Not applicable	Classification not possible	Classification not possible
Propan,2-methyl-	Classification not possible	Classification not possible	Category4	Not applicable	Not applicable	Not classified	Not classified

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Component Chemical Name	Respiratory or Skin Sensitization	Germ Cell Mutagenesis	Carcinogenicity	Reproductive Toxicity	Target organ toxicity (single exposure)	Target organ toxicity (repeated exposure)	Aspiration Hazard
Ethanol	Classification not possible	Category1B	Not classified	Category1A	Category3 (respiratory tract irritation, narcotic effects)	Category1 (liver) Category2 (nervous)	Classification not possible
Sterilization chemical	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Not classified	Not classified	Classification not possible
Dodecan-1-yl methacrylate	Classification not possible/Not applicable/Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible
Propane-1,2-diol	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Not classified
Proane	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category3 (narcotic effects)	Classification not possible	Not applicable
Butane	Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category3 (narcotic effects)	Classification not possible	Not applicable
Propan,2-methyl-	Not applicable/Classification not possible	Classification not possible	Classification not possible	Classification not possible	Category2/Category3	Classification not possible	Not applicable

12. ECOLOGICAL INFORMATION

Hazardous information of individual component : Blank means "below cutoff limit set by GHS" or "no data".

Component/ Chemical Name	Hazardous to the aquatic environment (acute)	Hazardous to the aquatic environment (chronic)
Ethanol	Not classified	Not classified
Sterilization chemical	Classification not possible	Classification not possible
Dodecan-1-yl methacrylate	Classification not possible	Classification not possible
Propane-1,2-diol	Classification not possible	Classification not possible
Proane	Classification not possible	Classification not possible
Butane	Classification not possible	Classification not possible
Propan,2-methyl-	Classification not possible	Classification not possible

Hazardous to the ozone layer : Not applicable

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13. DISPOSAL CONSIDERATIONS

- Disposal of contents/container must be entrusted to officially approved waste disposal dealers.

14. TRANSPORT INFORMATION

INTERNATIONAL REGULATIONS

UN Class

Class 2 Gas

UN Number

1950 AEROSOLS

Packing Group : Not applicable

Marine pollutant : Not applicable

Domestic Regulations :

Container Yellow Label

126 Gas-Compressed or Liquefied (Including Cold gas)

Loading Instructions

Loading height during transportation : less than 3 m

Consolidate Prohibited Goods

Dangerous Substances Group 1 & Group 7

High Pressure Gas

Specific Safety Measures and Conditions for Transport

- " Danger ! Flammable Keep Fire Away "
- Make sure that there are no breaks or leaks from package.
- Ensure to avoid collapse and damage.
- Package, label, and transport must comply with relevant regulations.
- Avoid direct sunlight.
- Keep dry. Dangerous if contacted with water.
- Do not load side-ways.
- Do not place directly on heated steel or ground during transport.
- Handle with care. Do not add shock to container. Avoid fall or crash.

15. REGULATORY INFORMATION (Japanese legislation)

Explosives Law

Not restricted

High Pressure Gas Safety Act

Not applicable (aerosols)

Fire Defense Law : Restricted storage limit is shown in ()

Group 4 Alcohols Hazard Class II (400L)

Poisonous and Deleterious Substances Control Act

Not applicable

(contains no restricted substance, refer to 3. COMPOSITION/INFORMATION ON INGREDIENTS for details)

Industrial Safety and Health Act :

Contains indicatable substance (refer to 3. COMPOSITION/INFORMATION ON INGREDIENTS for details)

Contains notifiable substance (refer to 3. COMPOSITION/INFORMATION ON INGREDIENTS for details)

Industrial Safety and Health Act (Ordinance on the Prevention of Organic Solvent Poisoning) :

Not applicable Contains no restricted substances

(refer to 3. COMPOSITION/INFORMATION ON INGREDIENTS for details)

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Industrial Safety and Health Act (Dangerous Goods) :

Flammable substance

Flammable gas

Pollutant Release and Transfer Register Law (PRTR) :

Not applicable ; contains no restricted substances

(refer to 3. COMPOSITION/INFORMATION ON INGREDIENTS for details)

16. OTHER INFORMATIONS

Classification of Chemicals Based on GHS JIS Z7252:2009

Hazard Communication of Chemicals Based on GHS-Labeling and Safety Data Sheet (SDS) JIS Z7253:2012

GHS Category Database (National Institute of Technology and Evaluation homepage)

Japan Advanced Information Center of Safety and Health homepage

Japan Auto Chemical Industry Association (JACA) edited : Management of Chemical Substances Database

Guideline for MSDS of Auto Chemical Products (JACA)

Regulations for Carriage and Storage of Dangerous Goods in Ships (Kaibundo)

※ Attention

SDS is presented to dealers and customers as reference informations to retain safety handling of the hazardous chemical product. Dealers and customers are encouraged to refer to this information and realize the necessity to conduct appropriate measurement suitable for the actual conditions of each use with your own responsibility. Therefore this data sheet is not a safety warranty.