

MATERIAL SAFETY DATA SHEET OLYMPUS CORPORATION

MSDS No.: R-MSDS-001-01E

[COMPANY IDENTIFICATION]

OLYMPUS CORPORATION

Quality Assurance Department

Life and Industrial Systems Group

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Section 1 - CHEMICAL PRODUCT AND SUPPLIER IDENTIFICATION

PRODUCT NAME

LENS CLEANER

SUPPLIER

Company: OLYMPUS CORPORATION

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Section 2 - HAZARDS IDENTIFICATION

HAZARD STATEMENT

May cause genetic defects.

May damage fertility or the unborn child.

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Preparation :Preparation

NAME	CAS No.	Content(%)
Water	7732-18-5	90-100
2-Butoxy ethanol	111-76-2	<0.7
Ethyl alcohol	64-17-5	<0.7

Components contributing to the hazard

Harmful Substances to be noticed, ISH Law Japan

2-Butoxy ethanol , Ethyl alcohol

Section 4 - FIRST AID MEASURES

General procedures

IF exposed or concerned : Get medical attention/advice.

IF INHALED

- Remove victim to fresh air and keep at rest in a position comfortable for breathing.

IF ON SKIN

- Wash with plenty of soap and water.

IF IN EYES

- Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Section 5 - FIRE FIGHTING MEASURES

Suitable extinguishing media

Use appropriate extinguishing media suitable for surrounding facilities.

Extinguisher. Carbon dioxide. Dry sand.

Special protective equipment and precautions for fire-fighters

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Section 6 - ACCIDENTAL RELEASE MEASURES

Personnel precautions, protective equipment and emergency procedures

When happened leaking, do collect the product and wear protect clothes while the work.

Preventive measures for secondary accident

Do guard against inflowing into drain, sewer, basement or closed place.

Do remove all ignitable causes.(forbid smoking at close and using fire)

Do earth all facilities when dealing with the leaked product.(for preventing static electricity.)

Not allowed to approach excluding persons concerned.

Section 7 - HANDLING AND STORAGE

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Use personal protective equipment as required.

Safety Measures/Incompatibility

Do use it at well ventilated place.

Do wear needed protect clothes.

Conditions for safe storage, including any incompatibilities

Recommendation for storage

Store locked up.

continued...

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Control value

(2-Butoxy ethanol)

Japan control value (1995) \leq 25ppm

Adopted value

(2-Butoxy ethanol)

ACGIH(1996) TWA: 20ppm (Eye & URT irr)

(Ethyl alcohol)

ACGIH(2008) STEL: 1000ppm (URT irr)

Protective equipment

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

Skin and body protection

Wear face protection (as specified by the manufacturer/supplier or the competent authority.)

Wear protective clothing.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical properties

Appearance :Transparent and colorless liquid

Phase change temperature

Initial Boiling Point/Boiling point : \geq 78.0 C

Flash point :None

Specific gravity/Density :N.A

Solubility in water :soluble

continued...

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

Stability

This product is considered to be stable under normal and anticipated storage and handling Conditions

Section 11 - TOXICOLOGICAL INFORMATION

Symptoms related to the physical, chemical and toxicological characteristics

Acute toxicity

Oral toxicity component(s) data

(2-Butoxy ethanol)

rat LD50 = 1746 mg/kg (SIDS (1997))

Dermal toxicity component(s) data

(2-Butoxy ethanol)

rabbit LD50 = 135 mg/kg (cal.; SIDS(1997))

Inhalation toxicity component(s) data

(2-Butoxy ethanol)

female rat LC50=2.2 mg-vapor/L/4hr (SIDS (1997))

Irritant properties

Skin corrosion/Irritation component(s) data

(2-Butoxy ethanol)

rabbit 500 mg open ; MILD

(Ethyl alcohol)

rabbit 400 mg open ; MILD rabbit 500 mg/24H ; SEVERE

Serious eye damage /irritation

Eye damage/irritation component(s) data

(Ethyl alcohol)

rabbit 100 mg/24H ; MODERATE rabbit 100 mg/4S rinse ; MODERATE

No Allergenic and sensitizing effects data available

Mutagenic effects

(Ethyl alcohol) ID662(2006), DFG (1999) et al

continued...

No Teratogenic effects data available

Carcinogenic effects

(Ethyl alcohol)

IARC-Gr.1 ; Carcinogenic to humans.

(2-Butoxy ethanol)

IARC-Gr.3 ; Not Classifiable as a Human Carcinogen.

(2-Butoxy ethanol)

ACGIH-A3(1996) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

(Ethyl alcohol)

ACGIH-A3(2008) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

(2-Butoxy ethanol)

EPA "Cannot Be Determined" to be carcinogenic(1996)

Toxicity for reproduction

(Ethyl alcohol) ID662(2006), DFGOT (1996)

(2-Butoxy ethanol) ID673(2006), SIDS (1997)

No Delayed/chronic effects from short/long-term exposure data available

No Aspiration hazard data available

Section 12 - ECOLOGICAL INFORMATION

Ecotoxicity

Acuatic toxicity

When leaking, and disposing, it might influence the environment. Therefore, note handling.

Throw neither product nor the waste fluid into ground and the drain ditch.

(Ethyl alcohol)

Crustacea (Daphnia magna) LC50=5463.9 mg/L/48hr (ECETOC TR91, 2003)

(2-Butoxy ethanol)

Crustacea (grass shrimp) LC50=5.4 mg/L/96hr (CICAD10, 1998)

Water solubility

(Ethyl alcohol)

miscible (ICSC, 2000)

(2-Butoxy ethanol)

miscible (ICSC, 2003)

continued...

Persistence and degradability

(2-Butoxy ethanol)

BOD_Degradation : 96%(Registered chemicals safety check & review data, Japan)

Bioaccumulative potential

(Ethyl alcohol)

log Pow=-0.32 (ICSC, 2000)

(2-Butoxy ethanol)

log Pow=0.83 (PHYSPROP Database, 2005)

Section 13 - DISPOSAL CONSIDERATIONS

Waste residues

Dispose of contents/container in accordance with local/national regulation

Dispose of waste material at an approved waste treatment/disposal facility in accordance with applicable local, federal regulations.

Throw neither product nor the waste fluid into ground and the drain ditch.

Section 14 - TRANSPORTATION INFORMATION

UN No, UN CLASS

Not applicable to UN NO.

Pollutant

Noxious Liquid ; Cat. Y :2-Butoxy ethanol

Noxious Liquid ; Cat. Z :Ethyl alcohol

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Section 15 - REGULATORY INFORMATION

The product is not applicable to Toxic/harmful substances control law, Japan
Industrial Safety and Health law, Japan

Chemical name et al should be informed :

Ethyl alcohol; 2-Butoxy ethanol

The product is not applicable to Organic Solvents control law, Japan

The product is not applicable to Pollution Release and Transfer Register (PRTR) law, Japan

The product is not applicable to Fire protection law, Japan

The product is not applicable to Chemical Substances Control Law, Japan

Other regulatory information

2-Butoxy ethanol (CAS : 111-76-2) is found on the following regulatory lists;

European Inventory of Existing Commercial Substances – EINECS

Toxic Substances Control Act – TSCA

Ethyl alcohol (CAS : 64-17-5) is found on the following regulatory lists;

European Inventory of Existing Commercial Substances – EINECS

Toxic Substances Control Act – TSCA

Section 16 - OTHER INFORMATION

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (3rd ed., 2009), UN
SDS & Labelling guide book (rev. 1st ed., Mar 2007), JPMA

Recommendations on the TRANSPORT OF DANGEROUS GOODS 16th edit. UN

Classification, labelling and packaging of substances and mixtures (reg.(EC) No 1272/2008)

2008 EMERGENCY RESPONSE GUIDEBOOK(US DOT)

2009 TLVs and BEIs. (ACGIH)

<http://monographs.iarc.fr/monoeval/grlist.html>

JIS Z 7250 2005

Supplier's SDS

Other information

This information contained in this data sheet represents the best information currently available to us. However, no warranty is made with respect to its completeness and we assume no liability resulting from its use. It are advised to make their own test