Date of issue: 12/03/2018
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Safety Data Sheet

1. Identification of the substance/mixture and of the company/undertaking

Product identifier:

Product name: Ethylene glycol mono-n-butyl ether

SDS No. : 2941E-2

Details of the supplier of the safety data sheet

Manufacturer/Supplier: KISHIDA CHEMICAL CO., LTD.
Address: 3-1, Honmachibashi, Chuo-ku,Osaka ,JAPAN
Division: Safety Management Dept. of Chemicals
Telephone number: +81-6-6946-8061
FAX: +81-6-6946-1607
e-mail address: kagakuhinanzenkanri@kishida.co.jp

2. Hazards identification

GHS classification and label elements of the product

Classification of the substance or mixture

PHYSICAL AND CHEMICAL HAZARDS

Flammable liquids: Category 4

HEALTH HAZARDS

Acute toxicity (Oral): Category 4
Acute toxicity (Dermal): Category 3
Acute toxicity (Inhalation): Category 2
Skin corrosion/irritation: Category 2
Serious eye damage/eye irritation: Category 2A
Reproductive toxicity: Category 2
Specific target organ toxicity - single exposure: Category 1(blood system; respiratory system; liver; kidney)
Specific target organ toxicity - single exposure: Category 3(Narcosis)
Specific target organ toxicity - repeated exposure: Category 1(blood system)

(Note) GHS classification without description: Not classified/Classification not possible

Label elements

Signal word: Danger

HAZARD STATEMENT

Combustible liquid
Harmful if swallowed
Toxic in contact with skin
Fatal if inhaled
Causes skin irritation
Causes serious eye irritation
Suspected of damaging fertility or the unborn child
Causes damage to organs after single exposure(blood system; respiratory system; liver; kidney)
May cause drowsiness or dizziness
Causes damage to organs through prolonged or repeated exposure(blood system)

PRECAUTIONARY STATEMENT

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
Do not breathe dust/fume/gas/mist/vapors/spray.
In case of inadequate ventilation wear respiratory protection. (as specified by the manufacturer/supplier or the competent authority.)
Use only outdoors or in a well-ventilated area.
Wash contaminated parts thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.

Response

In case of fire: Use appropriate media other than water for extinction.
Get medical advice/attention if you feel unwell.
IF exposed or concerned: Get medical advice/attention.
Call a POISON CENTER or doctor/physician if you feel unwell.
IF exposed or concerned: Call a POISON CENTER or doctor/physician.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF ON SKIN: Wash with plenty of soap and water.
If skin irritation occurs: Get medical advice/attention.
Take off immediately all contaminated clothing and wash it before reuse.
Take off contaminated clothing and wash it before reuse.
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 advice/attention.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Rinse mouth.

Storage

Store in a well-ventilated place. Keep container tightly closed.

Disposal

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

Specific Physical and Chemical hazards

Heating may cause fire.

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3. Composition/information on ingredients

Mixture/Substance selection:

Substance

Ingredient name:Ethylene glycol mono-n-butyl ether
Content (%):98(min)
Chemical formula:CH3(CH2)3OCH2CH2OH
Chemicals No, Japan:2-407;2-2424
CAS No.:111-76-2
MW:118.18
ECNO:203-905-0

Note : The figures shown above are not the specifications of the product.

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4. First-aid measures

Descriptions of first-aid measures

General measures

Get medical attention/advice if you feel unwell.

IF INHALED

Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER or doctor/physician if you feel unwell.

IF ON SKIN (or hair)

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.

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 advice/attention.

IF SWALLOWED

Rinse mouth.
Call a POISON CENTER or doctor/physician if you feel unwell.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media

In case of fire, use water mist, foam, dry powder, CO2 to extinguish.

Unsuitable extinguishing media

Indoor firefighting equipment or outdoor firefighting equipment
Sprinkler equipment
Dry-powder firefighting equipment - except for phosphate etc.,hydrogen carbonate etc.
Straight stream water extinguisher
Water mist extinguisher
Reinforcing liquid jet extinguisher
Dry-powder extinguisher - except for phosphate etc.,hydrogen carbonate etc.
Bucket of water or tank of water

Specific hazards arising from the substance or mixture

Containers may explode when heated.
Fire may produce irritating, corrosive and/or toxic gases.

Advice for firefighters

Specific fire-fighting measures

Evacuate non-essential personnel to safe area.

Special protective equipment and precautions for fire-fighters

Wear fire/flame resistant/retardant clothing.
Wear protective gloves/protective clothing/eye protection/face protection.
Firefighters should wear self-contained breathing apparatus with full face peace operated positive pressure mode.

6. Accidental release measures

Personnel precautions, protective equipment and emergency procedures

Ventilate area until material pick up is complete.
Wear proper protective equipment.

Environmental precautions

Prevent spills from entering sewers, watercourses or low areas.

Methods and materials for containment and cleaning up

Absorb spill with inert material (dry sand, earth, et al), then place in a chemical waste container.

Preventive measures for secondary accident

Collect spillage.

7. Handling and storage

Precautions for safe handling

Preventive measures

(Exposure Control for handling personnel)

Do not breathe dust/fume/gas/mist/vapors/spray.

(Protective measures against fire and explosion)

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

(Exhaust/ventilator)

Exhaust/ventilator should be available.

(Safety treatments)

Avoid contact with skin.

Avoid contact with eyes.

Safety Measures

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

When using do not eat, drink or smoke.

Any incompatibilities

See "10.Stability and Reactivity"

Advice on general occupational hygiene

Wash contaminated parts thoroughly after handling.

Do not eat, drink or smoke when using this product.

Take off immediately all contaminated clothing and wash it before reuse.

Storage

Conditions for safe storage

Keep container tightly closed.

Store in a cool, dry place. Do not store in direct sunlight.

Container and packaging materials for safe handling

Glass

Iron

8. Exposure controls/personal protection

Control parameters

Adopted value

(Ethylene glycol mono-n-butyl ether)

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

OSHA-PEL

(Ethylene glycol mono-n-butyl ether)

TWA: 50ppm, 240mg/m3

Exposure controls

Appropriate engineering controls

Do not use in areas without adequate ventilation.

Eye wash station should be available.

Washing facilities should be available.

Individual protection measures

Respiratory protection

Wear respiratory protection.

Hand protection

Wear protective gloves.

Eye protection

Wear eye/face protection.

9. Physical and Chemical Properties

Information on basic physical and chemical properties

Physical state: Liquid
Color: Colorless, clear
Odor: Characteristic odour
Melting point/Freezing point: −75℃
Boiling point or initial boiling point: (Ethylene glycol mono-n-butyl ether)171℃
Boiling range data is not available.
Flammability (gases, liquids and solids) data is not available.
Lower and upper explosion limit/flammability limit:
Lower explosion limit: (93 C) 1.1 vol %
Upper explosion limit: (135 C) 12.7 vol %
Flash point: (Ethylene glycol mono-n-butyl ether)67.5℃
Auto-ignition temperature: (Ethylene glycol mono-n-butyl ether)238℃
Decomposition temperature data is not available.
pH data is not available.
Kinematic viscosity data is not available.
Solubility:
Solubility in water: Miscible
n-Octanol/water partition coefficient: log Pow0.83
Vapor pressure: 0.10 kPa (20℃)
Density and/or relative density: 0.90
Relative vapor density (Air=1): 4.1
Relative density of the Vapor/air - mixture at 20℃ (Air = 1): 1.03
No Particle characteristics data is not available.

10. Stability and Reactivity

Reactivity
Not available.
Chemical stability
Stable under normal storage/handling conditions.
Possibility of hazardous reactions
The substance can form explosive peroxides. Reacts with strong oxidants. This generates fire and explosion hazard. (ICSC 0059)
Conditions to avoid
Contact with incompatible materials.
Contact with fire source.
Incompatible materials
Strong oxidizing agents
Hazardous decomposition products
Carbon oxides, Explosive peroxides

11. Toxicological Information

Information on toxicological effects
Acute toxicity
Acute toxicity (Oral)
[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
rat LD50=470917mg/kg (MOE risk assessment vol.6, 2008)
Acute toxicity (Dermal)
[GHS Cat. Japan, base data]

(Ethylene glycol mono-n-butyl ether)
rabbit LD50=220mg/kg (ATSDR, 1998)

Acute toxicity (Inhalation)

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
vapor: rat LC50=450ppm/4hr (SIDS, 2007)

Irritant properties

Skin corrosion/irritation

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
rabbit irritation (SIDS, 2006)

Serious eye damage/irritation

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
rabbit (OECD TG405, GLP) recover after 21 days (ECETOC TR95, 2005)

Allergenic and sensitizing effects data is not available.

Mutagenic effects data is not available.

Carcinogenicity

(Ethylene glycol mono-n-butyl ether)
IARC-Gr.3 : Not Classifiable as a Human Carcinogen
(Ethylene glycol mono-n-butyl ether)
ACGIH-A3(1996) : Confirmed Animal Carcinogen with Unknown Relevance to Humans

Reproductive toxicity

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
cat. 2; rat : SIDS, 2006

STOT

STOT-single exposure

[cat.1]

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
blood system; respiratory system; liver; kidney (SIDS, 2007; EU-RAR, 2006)

[cat.3 (drow./dizz.)]

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
narcotic effect (SIDS, 2007; EU-RAR, 2006)

STOT-repeated exposure

[cat.1]

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
blood system (SIDS, 2007; CICAD 67, 2010)

Aspiration hazard data is not available.

12. Ecological Information

Ecotoxicity

Aquatic toxicity

Hazardous to the aquatic environment (Acute)

[GHS Cat. Japan, base data]
(Ethylene glycol mono-n-butyl ether)
Fish (Cyprinodon variegatus) LC50=116mg/L/96hr (MOE Japan, vol 6 2008 et al)

Water solubility

(Ethylene glycol mono-n-butyl ether)
miscible (ICSC, 2003)

Persistence and degradability
(Ethylene glycol mono-n-butyl ether)
BOD_Degradation : 96% (Registered chemicals data check & review)
Bioaccumulative potential
(Ethylene glycol mono-n-butyl ether)
log Pow=0.83 (PHYSPROP DB, 2005)
Mobility in soil
Mobility in soil data is not available.
Other adverse effects
Ozone depleting chemical data is not available.

13. Disposal considerations

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging
Waste treatment methods
Dispose of contents/container in accordance with local/national regulation.

14. Transport Information

UN No.: 2810
Proper Shipping Name :
TOXIC LIQUID, ORGANIC, N.O.S.
Class or division : 6.1
Packing group : III
ERG GUIDE No.: 153
Special provisions No.: 223; 274

IMDG Code (International Maritime Dangerous Goods Regulations)
UN No.: 2810
Proper Shipping Name :
TOXIC LIQUID, ORGANIC, N.O.S.
Class or division : 6.1
Packing group : III
Special provisions No.: 223; 274

IATA Dangerous Goods Regulations
UN No.: 2810
Proper Shipping Name :
TOXIC LIQUID, ORGANIC, N.O.S.
Class or division : 6.1
Hazard labels : Toxic
Packing group : III
Special provisions No.: A3; A4; A137

Environmental hazards
MARPOL Annex III - Prevention of pollution by harmful substances
Marine pollutants (yes/no) : no
MARPOL Annex V - Prevention of pollution by garbage discharge
Specific target organ toxicity - repeated exposure: cat.1
Ethylene glycol mono-n-butyl ether

Transport in bulk according to Annex II of MARPOL73/78 and IBC Code
Noxious Liquid ; Cat. Y
Ethylene glycol mono-n-butyl ether

15. Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

US Federal Regulations

Chemicals listed in TSCA Inventory

Ethylene glycol mono-n-butyl ether

Other regulatory information

Ensure this material in compliance with federal requirements and ensure conformity to local regulations.

16. Other information

GHS classification and labelling

Flam. Liq. 4: H227 Combustible liquid
Acute Tox. 4: H302 Harmful if swallowed
Acute Tox. 3: H311 Toxic in contact with skin
Acute Tox. 2: H330 Fatal if inhaled
Skin Irrit. 2: H315 Causes skin irritation
Eye Irrit. 2A: H319 Causes serious eye irritation
Repr. 2: H361 Suspected of damaging fertility or the unborn child
STOT SE 1: H370 Causes damage to organs after single exposure
STOT SE 3: H336 May cause drowsiness or dizziness
STOT RE 1: H372 Causes damage to organs through prolonged or repeated exposure

Reference Book

Globally Harmonized System of classification and labelling of chemicals, (7th revised edition, 2017), UN
Recommendations on the TRANSPORT OF DANGEROUS GOODS 20th edit., 2017 UN
IMDG Code, 2018 Edition (Incorporating Amendment 39-18)
IATA Dangerous Goods Regulations (61th Edition) 2020
Classification, labelling and packaging of substances and mixtures (Table 3 ECNO6182012)
2016 EMERGENCY RESPONSE GUIDEBOOK (US DOT)
2020 TLVs and BEIs. (ACGIH)
http://monographs.iarc.fr/ENG/Classification/index.php
Supplier's data/information

General Disclaimer

This data sheet was created based on the information we currently have and may be revised according to new information. In addition, the precautions apply only to normal handling, and in the case of special handling, please make adequate countermeasure to maintain your safety.
The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The data does not signify any warranty with regard to the products' properties.
The GHS classification data given here is based on current Japan official data (NITE published in 2019).