

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifiers

Product name	1,4-Butanediol diglycidyl ether
Product code	BDDE
Supplier	Syntagon AB
REACH No.	01-2119494060-45
CAS-No.	2425-79-8

Relevant identified uses of the substance or mixture and uses advised against

Identified uses N/A

Details of the supplier of the safety data sheet

Company	Syntagon AB Tallvägen 6, SE – 151 38, Södertälje, Sweden
Telephone	+46 8 554 422 50
E-mail address	info@ardena.com

Emergency telephone number

Emergency Phone 112

SECTION 2: HAZARDS IDENTIFICATION

**Classification of the substance or mixture
According to Regulation (EC) No. 1272/2008**

Acute toxicity, Inhalation (Category 4)
Acute toxicity, Dermal (Category 4)
Eye irritation (Category 2)
Skin irritation (Category 2)
Skin sensitization (Category 1)

According to Directive 67/548/EEC or 1999/45/EC

Harmful by inhalation and in contact with skin. Irritating to eyes and skin. May cause sensitization by skin.

Label elements

Labelling according Regulation (EC) No 1272/2008



Signal word – Warning

Hazard statement(s)

H312	Harmful in contact with skin
H315	Causes skin irritation

H317 May cause an allergic skin reaction
 H319 Causes serious eye irritation
 H332 Harmful if inhaled

Precautionary statement(s)

P280 Wear protective gloves/protective clothing
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

According to Directive 67/548/EEC or 1999/45/EC



R-phrase(s)
 R20/21 Harmful by inhalation and in contact with skin
 R36/38 Irritating to eyes and skin
 R43 May cause sensitization by skin contact

S-phrase(s)
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
 S28 After contact with skin, wash immediately with plenty of soap and water
 S37/39 Wear suitable gloves and eye/face protection.

Other information

No data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCES

SYNONYMS -
 FORMULA C₁₀H₁₈O₄
 MOLECULAR WEIGHT 202.25 G/MOL
 CAS-No. 2425-371-7
 EC-No. 219-371-7
 INDEX-No. 603-072-00-7

HAZARDOUS INGREDIENTS ACCORDING TO REGULATION (EC) No 1272/2008 AND DIRECTIVE 1999/45/EC

COMPOUND	CLASSIFICATON	CONCENTRATION
1,4-BUTANEDIOL DIGLYCIDYL ETHER CAS-No. 2425-371-7 EC-No. 219-371-7 INDEX-No. 603-072-00-7	Acute Tox.4; Skin Irrit.2; Eye Irrit.2; Skin Sens.1; Aquatic Chronic 3; H302, H332, H312, H315, H319, H317, H412	<= 100%

SECTION 4: FIRST AID MEASURES
Description of first aid measures
General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If inhaled, move person into fresh air. If breathing becomes difficult, call a physician.

In case of skin contact

In case of contact, immediately wash skin with copious amounts of water for at least 15 minutes. Call a physician.

In case of eye contact

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

If swallowed

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Indication of any immediate medical attention and special treatment needed

No data available.

SECTION 5: FIREFIGHTING MEASURES
Extinguishing media
Suitable extinguishing media

Use water spray, carbon dioxide, dry chemical powder, or appropriate foam.

Special hazards arising from the substance or mixture

Carbon oxides.

Advice for firefighters

Wear self-contained breathing apparatus and full body protective equipment.

Further information

No data available.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation. Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Ventilate area and wash spill site after material pickup is completed.

Reference to other sections

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

SECTION 7: HANDLING AND STORAGE**Precautions for safe handling**

Directions for safe handling: Avoid inhalation of vapor or mist. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.

Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in dry and well-ventilated place.

Specific end use(s)

No data available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**

No data available.

Exposure controls**Appropriate engineering controls**

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Chemical safety glasses with side-shields. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves (e.g. EN 374) to prevent skin exposure. Gloves must be inspected prior to use. Use proper glove removal technique to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air purifying respirators are appropriate use a full face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
Information on basic physical and chemical properties

Appearance	clear, viscous liquid
Colour	light yellow
Odour	no data available
pH	no data available
Melting point/freezing point	-21.49 °C - lit
Initial boiling point and boiling range	266 °C - lit
Flash point	110 °C – closed cup
Evapouration rate	no data available
Flammability	no data available
Upper/lower flammability	no data available
Vapour pressure	13 hPa at 20 °C
Vapour density	no data available
Relative density	1.1 g/cm ³ at 25 °C
Water solubility	55.6 g/l at 20 °C – lit
Partition coefficient: n-octanol/water	log Pow: -1.33 at 20 °C
Auto-ignition temperature	260 °C at 984 hPa
Decomposition temperature	no data available
Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available

Other safety information

Surface tension	44.4 mN/m at 20 °C
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SECTION 10: STABILITY AND REACTIVITY

Reactivity	No data available.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No data available.
Conditions to avoid	Direct sources of heat. Avoid moisture.
Incompatible materials	Strong oxidizing agents, acids, Bases, Halides
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides. Other decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION**Information on toxicological effects****Acute toxicity**

LD50 Oral -rat – 1.134 mg/kg

Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Other.

Behavioral:Somnolence (general depressed activity). Skin and Appendages: Other: Hair.

LD50 Dermal - rabbit - 1.130 mg/kg

Skin corrosion/irritation

Skin - rabbit - Skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - rabbit - Moderate eye irritation

Respiratory or skin sensitization

May cause allergic skin reaction.

Germ cell mutagenicity

Genotoxicity in vitro - Hamster - Lungs

Sister chromatid exchange

Genotoxicity in vivo - rat - Intraperitoneal

Cytogenetic analysis

Carcinogenicity

Carcinogenicity - mouse – Skin

Nutritional and Gross Metabolic:Dehydration. Skin and Appendages: Other: Tumors.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Potential health effects

Harmful if inhaled. Causes respiratory tract irritation. Harmful if swallowed. Harmful if absorbed through skin. Causes skin irritation. Causes serious eye irritation.

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Acute effects:

Tremor, convulsions were observed at more than 300 mgs/kg and lethality at more than 700. No carcinogenic effects were detected in vitro. Moreover, the compound exhibited anticancer activity at high concentrations.

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Additional information

Putative pharmacodynamic effects are antineurodegenerative, anti-fatigue and antidepressive.

SECTION 12: ECOLOGIC INFORMATION**Toxicity**

Toxicity to fish static test LC50 Danio rerio (zebra fish) – 24 mg/l – 96 h

Toxicity to daphnia and other aquatic invertebrates EC50 – Daphnia magna (Water flea) – 75 mg/l – 48 h

Toxicity to algae static test EC50 - Pseudokirchneriella subcapitata >160 mg/l - 72 h

Persistence and degradability

Biodegradability Aerobic – 28 d.

Result: < 40 % - Not readily biodegradable.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

Results of PBT and VpVB assessment

No data available.

Other adverse effects

Harmful to aquatic life with long lasting effects.
No data available.

SECTION 13: DISPOSAL CONSIDERATIONS**Waste treatments methods**

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

SECTION 14: TRANSPORT INFORMATION

IATA	Not regulated as hazardous material.
IMO	Not regulated as hazardous material.
RID/ADR	Not regulated as hazardous material.

SECTION 15: REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance/mixture**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: OTHER INFORMATION

MSDS Creation Date: 2nd February, 2018

The information above is believed to be accurate and represents the best information currently available to us. We welcome any additional information about the products that customers have obtained by personal experience. Syntagon AB shall not be held liable damage resulting from handling or from contact with the above product.