

Revision Date 24-Nov-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: 2-Butyne-1,4-diol
Cat No. 108080000; 108080010; 108080050; 108082500
Synonyms 1,4-Dihydroxy-2-butyne

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
 Janssen Pharmaceuticaaan 3a
 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 800-ACROS-01
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
 Emergency Number, US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300
 CHEMTREC Phone Number, Europe: 703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 3
Skin Corrosion / irritation	Category 1 B
Skin Sensitization	Category 1
Specific target organ systemic toxicity (repeated exposure)	Category 2

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

Symbol(s) T - Toxic
R -phrase(s) R21 - Harmful in contact with skin
 R34 - Causes burns
 R43 - May cause sensitization by skin contact
Risk Combination Phrases R23/25 - Toxic by inhalation and if swallowed
 R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed

2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

H317 - May cause an allergic skin reaction
 H331 - Toxic if inhaled
 H314 - Causes severe skin burns and eye damage
 H373 - May cause damage to organs through prolonged or repeated exposure
 H301 - Toxic if swallowed
 H312 - Harmful in contact with skin

Precautionary Statements - EU (§28, 1272/2008)

P280 - Wear protective gloves/protective clothing/eye protection/face protection
 P302 + P350 - IF ON SKIN: Gently wash with plenty of soap and water
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 P310 - Immediately call a POISON CENTER or doctor/physician
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Other Hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
1,4-Butynediol 110-65-6	EEC No. 203- 788-6	99	110-65-6	C;R34 T;R23/25 Xn;R21-48/22 R43	Acute Tox. 3 (H301) Acute Tox. 3 (H331) Acute Tox. 4 (H312) Skin Corr. 1B (H314) Skin Sens. 1 (H317) STOT RE 2 (H373)	-

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact

Immediate medical attention is required Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes

Skin Contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Immediate medical attention is required

Ingestion

Call a physician immediately Clean mouth with water

Inhalation

Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Immediate medical attention is required

Notes to Physician

Treat symptomatically

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray Carbon dioxide (CO₂) Dry chemical alcohol-resistant foam

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal Do not flush into surface water or sanitary sewer system

7. HANDLING AND STORAGE

Precautions for Safe Handling

Do not breathe dust Do not breathe vapors or spray mist Do not get in eyes, on skin, or on clothing Use only in area provided with appropriate exhaust ventilation Minimize dust generation and accumulation

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place Keep container tightly closed

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure limits

Component

1,4-Butynediol

Austria	Switzerland	Poland	Norway	Ireland
	STEL: 0.2 mg/m ³ MAK: 0.2 mg/m ³			

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas Ensure that eyewash stations and safety showers are close to the workstation location

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Solid

Appearance

Beige

pH

6.4 100 g/L aq.sol.

Vapor Pressure

1.33 mbar @ 102 °C

Boiling Point/Range

238°C / 460.4°F

Melting Point/Range

54 - 58°C / 129.2 - 136.4°F

Decomposition temperature

> 150°C

Flash Point

152°C / 305.6°F

Water Solubility

3740 g/L (20°C)

Specific Gravity

1.200

Molecular Formula

C4 H6 O2

Molecular Weight

86.09

10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Stable under normal conditions

Possibility of Hazardous Reactions

Hazardous Polymerization

No information available.

Hazardous Reactions .

No information available.

Conditions to Avoid

Temperatures above .?1°C, Incompatible products.

Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases, Powdered metal salts, Acid anhydrides, Acid chlorides.

Hazardous Decomposition ProductsCarbon monoxide (CO). Carbon dioxide (CO₂).**11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity****Product Information** No acute toxicity information is available for this product**Component Information****Component**

1,4-Butynediol

LD50 Oral	LD50 Dermal	LC50 Inhalation
100 mg/kg (Rat)	659 mg/kg (Rat) 2000 mg/kg (Rabbit)	2.5 mg/L (Rat) 4 h

Chronic Toxicity**Carcinogenicity** There are no known carcinogenic chemicals in this product**Sensitization**

May cause sensitization by skin contact

Mutagenic Effects

Not mutagenic in AMES Test

Reproductive Effects

No information available.

Developmental Effects

No information available.

Target Organs

No information available.

Other Adverse Effects

See actual entry in RTECS for complete information

Endocrine Disruptor Information

None known

12. ECOLOGICAL INFORMATION**Toxicity****Ecotoxicity effects**

Do not empty into drains

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
1,4-Butynediol	430 mg/L EC50 = 96 h 480 mg/L EC50 = 72 h	46-100 mg/L LC50 96 h 49.3-58.3 mg/L LC50 96 h	EC50 = 1343 mg/L 48 h EC50 = 2940 mg/L 17 h	26.8 mg/L EC50 = 48 h

Persistence and degradability

Expected to be biodegradable

Bioaccumulative potential

No information available.

Component

1,4-Butynediol

log Pow

0

Mobility in soil

Results of PBT and vPvB assessmentOther adverse effects

No information available

13. DISPOSAL CONSIDERATIONSWaste treatment methods**Waste from Residues / Unused**

Dispose of in accordance with local regulations

Products**Contaminated Packaging**

Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATIONIMDG/IMO

UN-No 2923
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group III
 Proper Shipping Name CORROSIVE SOLID, TOXIC, N.O.S.

ADR

UN-No 2923
 Hazard Class 8
 Subsidiary Class 6.1
 Packing Group III
 Proper Shipping Name CORROSIVE SOLID, TOXIC, N.O.S.

IATA

UN-No 2923
 Hazard Class 8
 Subsidiary Hazard Class 6.1
 Packing Group III
 Proper Shipping Name CORROSIVE SOLID, TOXIC, N.O.S.*

15. REGULATORY INFORMATIONSafety, health and environmental regulations/legislation specific for the substance or mixtureInternational Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
1,4-Butynediol	203-788-6	-		X	X	-	X	X	X	X	KE-04384 X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory Lists

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2-3

R21 - Harmful in contact with skin

R34 - Causes burns

R43 - May cause sensitization by skin contact

R23/25 - Toxic by inhalation and if swallowed

R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed

Revision Date 24-Nov-2010

Revision Summary Not applicable

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

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

End of Safety Data Sheet