



Importers and dealers of
- Natural and Organic Oils
- Essential Oils
- Natural Powders
- Clays, etc
- Agro Products
- General Contracts

Safety Data Sheet MSDS / SDS

1,3-Butanediol

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

- Product name: 1,3-Butanediol
- CAS: 107-88-0
- EINECS Number: 203-529-7
- Synonyms: 1,3-Butanediol, BD, Butanediol

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

- Relevant identified uses: For R&D use only. Not for medicinal, household or other use.
- Uses advised against: none

Company Identification

- Company: Sophix Natural Agro & Products Ltd.
- Address: 5, Olayinka Owodunni Street, Off Sule Abore, Behind NNPC Filling Station, Ojodu Berger, Lagos.
- Telephone: +234 706 1111 838

SECTION 2: Hazards identification

GHS Label elements, including precautionary statements



- Symbol(GHS)
- Signal word Warning

Precautionary statements

P264 Wash hands thoroughly after handling.
P264 Wash skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Hazard statements

H319 Causes serious eye irritation

SECTION 3: Composition/information on ingredients

Substance

- Product name: 1,3-Butanediol
- Synonyms: 1,3-Butanediol, BD, Butanediol



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- CAS: 107-88-0
- EC number: 203-529-7
- MF: C4H10O2
- MW: 90.12

SECTION 4: First aid measures

Description of first aid measures

General advice

Show this material safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air.

In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given.

Special hazards arising from the substance or mixture

Nature of decomposition products not known. Combustible.

Vapors are heavier than air and may spread along floors. Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

Advice for firefighters

In the event of fire, wear self-contained breathing apparatus.

Further information

Prevent fire extinguishing water from contaminating surface water or the ground water system.

NFPA 704

1
1
0

HEALTH	1	Exposure would cause irritation with only minor residual injury (e.g. acetone , sodium bromate, potassium chloride)
FIRE	1	Materials that require considerable preheating, under all ambient temperature conditions,



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		before ignition and combustion can occur. Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93.3 °C (200 °F). (e.g. mineral oil , ammonia)
REACT	0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium, N2)
SPEC. HAZ.		

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

Environmental precautions

Do not let product enter drains.

Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb?). Dispose of properly. Clean up affected area.

Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

Precautions for safe handling

For precautions see section 2.2.

Conditions for safe storage, including any incompatibilities

Tightly closed.

hygroscopic

Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

control parameter

Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

Exposure controls

Appropriate engineering controls

Change contaminated clothing. Wash hands after working with substance.

Personal protective equipment

Eye/face protection



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Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) 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.

The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatrill? (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested: Dermatrill? (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

protective clothing

Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Control of environmental exposure

Do not let product enter drains.

SECTION 9: Physical and chemical properties

Information on basic physicochemical properties

- Appearance Colorless to yellowish liquid
- Odour odorless
- Odour Threshold No data available
- pH 6,0 - 7,0 at 20 °C
- Melting point/freezing point Initial boiling point and boiling range Melting point/freezing point: -57 °C - ISO 3016 203 - 204 °C - lit. Flash point 108 °C - closed cup Evaporation rate No data available Flammability (solid, gas) Upper/lower flammability or explosive limits No data available Upper explosion limit: 12,6 %(V) Lower explosion limit: 1,9 %(V) Vapour pressure 0,08 hPa at 20 °C Vapour density 3,11 - (Air = 1.0) Relative density 1,005 g/cm³ at 25 °C Water solubility 500 g/l at 20 °C - OECD Test Guideline 105 - miscible Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature log Pow: -0,9 at 25 °C - Bioaccumulation is not expected. 410 °C at 1.019 hPa - DIN 51794 No data available Viscosity No data available Explosive properties No data available Oxidizing properties No data available
- Melting point/freezing point Melting point/freezing point: -57 °C - ISO 3016
- Initial boiling point and boiling range 203 - 204 °C - lit.
- Flash point 108 °C - closed cup
- Evaporation rate 250 °F
- Flammability (solid, gas) No data available
- Upper/lower flammability or explosive limits Upper explosion limit: 12,6 %(V) Lower explosion limit: 1,9 %(V)
- Vapour pressure 0,08 hPa at 20 °C
- Vapour density 3,11 - (Air = 1.0)



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- Relative density 1,005 g/cm³ at 25 °C
 - Water solubility 500 g/l at 20 °C - OECD Test Guideline 105 - miscible
 - Partition coefficient: n-octanol/water log Pow: -0,9 at 25 °C - Bioaccumulation is not expected.
 - Autoignition temperature 410 °C at 1.019 hPa - DIN 51794
 - Decomposition temperature No data available
 - Viscosity No data available
 - Explosive properties No data available
 - Oxidizing properties No data available
-

Other safety information

Surface tension 72,6 mN/m at 1g/l at 20 °C

- OECD Test Guideline 115
 - Dissociation constant 15,5 at 25 °C
 - OECD Test Guideline 112
 - Relative vapor density
3,11 - (Air = 1.0)
-

SECTION 10: Stability and reactivity

Reactivity

Forms explosive mixtures with air on intense heating.

A range from approx. 15 Kelvin below the flash point is to be rated as critical.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

No data available

Conditions to avoid

Avoid moisture. Strong heating.

Incompatible materials

Strong oxidizing agents, Acid chlorides, Acid anhydrides, Chloroformates, Reducing agents

Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Nature of decomposition products not known.

In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 22.800 mg/kg

Remarks: (ECHA)

LD50 Dermal - Rabbit - > 20.000 mg/kg Remarks: (RTECS)

Skin corrosion/irritation



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Skin - Rabbit

Result: Mild skin irritation - 24 h Remarks: (RTECS)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritation to eyes, reversing within 7 days - 18 h Remarks: (ECHA)

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available Ames test

Escherichia coli/Salmonella typhimurium Result: negative

Rat - male and female - Bone marrow Result: negative

(ECHA)

Rat - male and female Result: negative (ECHA)

Carcinogenicity

IARC: No ingredient 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

Additional Information

Repeated dose toxicity - No data available RTECS: EK0440000

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

Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

Handle in accordance with good industrial hygiene and safety practice.

Toxicity

LD50 orally in Rabbit: 18610 mg/kg LD50 dermal Rabbit > 20000 mg/kg

SECTION 12: Ecological information

Toxicity

Toxicity to fish

semi-static test LC50 - Oryzias latipes (Orange-red killifish) - > 100 mg/l - 96 h

(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - > 1.000 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae

static test ErC50 - Desmodesmus subspicatus (green algae) - >

1.070 mg/l - 72 h

(OECD Test Guideline 201)

Persistence and degradability

Biodegradability aerobic - Exposure time 29 d

Result: 81 % - Readily biodegradable.

(OECD Test Guideline 301B)

Bioaccumulative potential

No data available



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Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

SECTION 13: Disposal considerations

Waste treatment methods

Product

See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

Incompatibilities

Butylene glycol is incompatible with oxidizing reagents.

SECTION 14: Transport information

UN number

ADR/RID: - IMDG: - IATA: -

UN proper shipping name

ADR/RID: Not dangerous goods IMDG: Not dangerous goods IATA: Not dangerous goods

Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

Packaging group

ADR/RID: - IMDG: - IATA: -

Environmental hazards

ADR/RID: no IMDG Marine pollutant: no IATA: no

Special precautions for user

Further information

Not classified as dangerous in the meaning of transport regulations.

SECTION 15: Regulatory information

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

Regulations on the Safety Management of Hazardous Chemicals

China Catalog of Hazardous chemicals 2015:Not Listed. website: <https://www.mem.gov.cn/>

Measures for Environmental Management of New Chemical Substances

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

EC Inventory:Listed.

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>



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United States Toxic Substances Control Act (TSCA) Inventory: Listed. website: <https://www.epa.gov/>

Philippines Inventory of Chemicals and Chemical Substances (PICCS): Listed. website: <https://emb.gov.ph/>

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC): Listed. website: <https://www.mee.gov.cn/>

SECTION 16: Other information

Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%