

SECTION 1: Identification

1.1 Identification

Product form	:	Substance
Substance name	:	Somfroth®
CAS No	:	5870-82-6
EC/ List No	:	Not available/none
Formula	:	C ₁₀ H ₂₂ O ₃
Molecular weight	:	190.28 g/mol
Synonyms	:	1,1,3 Triethoxybutane, 3-ethoxybutyraldehyde, diethyl acetal

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

Use of the substance/mixture	:	Laboratory chemicals, Manufacture of substances
Relevant identified uses	:	Mining chemicals, solvent, chemical intermediate
Uses advised against:	:	Not known

1.3 Details of the supplier of the safety data sheet

Godavari Biorefineries Ltd
45/47 Somaiya bhavan
Mahatma Gandhi Road
Fort Mumbai -400001, INDIA
Email: alka@somaiya.com
T 0091 22 61702100
www.somaiya.com

1.4 Emergency telephone Number

Emergency number	:	(91-08350) 260046 /47 /48 0091 22 61702100 (Monday – Friday - 09.30 hrs to 18.00 hrs)
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SECTION 2: Hazard(s) identification

GHS classification

2.1 Classification of the substance or mixture

This substance is not hazardous.

2.2 GHS labeling

Hazard pictograms (GHS)	:	None
Signal word (GHS)	:	None
Supplemental Hazard information:	:	None

2.3 Other hazards

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.

2.4 Unknown acute toxicity (GHS US)

Not applicable.

SECTION 3: Composition/Information on ingredients

3.1 Substance

Name	Product Identifier	Concentration %	GHS Classification
Somfroth®	CAS No. 5870-82-6	≥95	--

Full text of hazard classes and H-statements : None

3.2 Mixture

Not applicable.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	:	Remove contaminated, soaked clothing immediately and dispose of safely.
Inhalation	:	Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.
Skin contact	:	Wash off immediately with plenty of water. When symptoms persist or in all cases of doubt seek medical advice.
Eye contact	:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses. Medical attention is required.
Ingestion	:	Call a physician immediately. Do not induce vomiting without medical advice.

4.2 Most important symptoms and effects, both acute and delayed

None

4.3 Indication of any immediate medical attention and special treatment needed

Treat sympathetically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	:	Water spray, foam, dry chemical, carbon dioxide (CO ₂)
Unsuitable extinguishing media	:	Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products	:	Under conditions giving incomplete combustion, hazardous gases produced may consist of: carbon monoxide (CO) carbon dioxide (CO ₂)
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5.3 Advice for firefighters

Firefighting instructions	:	Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire fighting turn out gear.
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5.4 Additional information

- : Precautions for fire fighting
Cool containers / tanks with water spray. Dike and collect water used to fight fire. Water runoff cans cause environmental damage. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin and eyes. Avoid breathing vapours or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.

6.2 Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pre-treatment (biological treatment plant).

6.3 Methods and material for containment and cleaning up

Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Dispose of in accordance with local regulations.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Precautions for safe handling :
- Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.
 - Advice on protection against fire and explosion
 - Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.

7.2 Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care.

7.3 Specific end uses

No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

No exposure limit established

8.2 Exposure controls

- 8.2.1 Appropriate engineering controls :
- General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Personal protective equipment :



Protective goggles. Gloves. Protective clothing. Face shield. Gas mask with filter.

- General Advice :
- Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

- Hygiene measures: :
- When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

- Eye/face protection :
- Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face. Equipment should conform to EN 166.

- Skin protection-
Hand protection :
- Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

Suitable material nitrile rubber
Evaluation according to EN 374: level 6
Glove thickness approx 0,55 mm
Break through time > 480 min
Suitable material polyvinylchloride / nitrile rubber
Evaluation according to EN 374: level 6
Glove thickness approx 0,9 mm
Break through time > 480 min

- Environmental exposure controls :
- If possible use in closed systems. If leakage cannot be prevented, the substance needs to be suck off at the emersion point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	:	Liquid
Appearance	:	No Data Available
Colour	:	Yellow to brown
Odour	:	No Data Available
pH	:	Neutral in nature
Melting point	:	No Data Available
Freezing point	:	No Data Available
Initial boiling point/boiling range	:	225.5 °C at 760 mm Hg
Flash Point	:	79.6 °C – Closed cup
Relative evaporation rate	:	No Data Available
Relative density	:	0.891 g/cm ³
Relative vapour density at 20°C	:	No Data Available
Specific gravity/ density	:	2.70 g/cm ³ at 20 °C
Molecular mass	:	No Data Available
Flammability(Solid, Gas)	:	No data available
Upper/lower flammability or Explosive limit	:	No Data Available
Solubility	:	No data available
Vapor pressure	:	No Data Available
Vapour density	:	No Data Available
Evaporation Rate	:	No data available
Partition coefficient n-octanol/water	:	No Data Available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No Data Available
Viscosity	:	No Data Available
Explosive Limits	:	No Data Available
Oxidizing properties	:	No Data Available

9.2 Other information

Ignition temperature	:	Not applicable
Bulk density	:	ca.1,400 - 1,600 kg/m ³

SECTION 10: Stability and reactivity

10.1 Reactivity	:	The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.
10.2 Chemical Stability	:	Stable under recommended storage conditions
10.3 Possibility of hazardous reactions	:	Presents no significant reactivity hazard, by itself or in contact with water. Hazardous polymerisation does not occur
10.4 Conditions to avoid	:	Avoid contact with heat, sparks, open flame, and static discharge. Avoid any source of ignition
10.5 Incompatible materials	:	Strong oxidizing agents, acids & alkalis
10.6 Hazardous decomposition products	:	No decomposition if stored and applied as directed

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Likely routes of exposure: Dermal contact, Eye contact, Inhalation, Ingestion

Acute oral toxicity LD50	:	No data available
Acute dermal toxicity LD50	:	No data available
Skin corrosion/irritation	:	No data available
Serious eye damage/irritation	:	No data available
Respiratory or skin sensitization	:	No data available
Germ cell mutagenicity	:	No data available
Carcinogenicity	:	No data available
Teratogenicity	:	No data available
Reproductive toxicity	:	No data available
Aspiration hazard	:	No data available
Signs and Symptoms of Exposure	:	No data available
Synergistic effects	:	No data available

11.2 Further information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to Fish LC50	:	No data available.
Toxicity to aquatic invertebrates EC50	:	No data available.

12.2 Persistence and degradability

No data available.

12.3 Bio accumulative potential

Not Data available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT), nor very persistent nor verybio accumulating (vPvB).

12.6 Other adverse effects

No data available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product disposal	:	Remove and dispose of waste in accordance with applicable local and/or national regulations through an authorized waste management or disposal through an authorized waste incineration facility. Do not discharge waste into drains, soil, water bodies, or the environment. Contaminated packaging shall be handled and disposed of in accordance with applicable regulations.
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SECTION 14 : Transport Information

D.O.T. (49CFR)	:	Not restricted
RID/ADR	:	Not restricted
Marine transport (IMDG)	:	Not restricted
Air transport ICAO/IATA	:	Not restricted

SECTION 15: Regulatory information

15.1 National regulations

Not hazardous according to Directive 67/548/EEC
Caution: Substance not yet fully tested (EU).

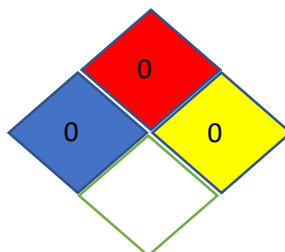
SECTION 16: Other information

16.1 Hazard Statement

No data available.

16.2 NFPA Rating

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16.3 Abbreviations and acronyms

PBT =Persistent Bioaccumulative and Toxic
vPvB= Very Persistent and Very Bioaccumulative
SCBA= Self Contained Breathing Apparatus
NIOSH REL= National Institute for Occupational Safety and Health Recommended Exposure Limit
UEL= Upper Explosive Limit
LEL= Lower Explosive Limit
IARC= International Agency for Research on Cancer
EPA=Environmental Protection Agency
TSCA= Toxic Substances Control Act
NFPA= National Fire Protection Association
TLV = Threshold Limit Value
ACGIH = American Conference of Governmental Industrial Hygienist
REACH = Registration, Evaluation .Authorisation and Restriction of Chemicals
CLP = Classification, Labelling and Packaging
LD / LC = Lethal Doses / Lethal Concentration
GHS = Globally Harmonised System
ADR = Accord europeen relative au transport international de marchandises
IMDG-Code = International Maritime Code for Dangerous Goods
EmS = Emergency measures on Sea
ICAO = International Civil Aviation Organization
IATA/DGR= International Air Transport Association/Dangerous Goods Regulation

16.4 Further information:

Information in this SDS is from available published sources and is believed to be accurate. No warranty, express or implied, is made and Godavari Biorefineries Ltd assumes no liability resulting from the use of this SDS. The user must determine suitability of this information for his application.