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

1.1 Product identifiers

Product name : Ethyl 3-ethoxypropionate
Product Number : 537586
Brand : SIGALD
CAS-No. : 763-69-9

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

Identified uses : Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Flammable liquids (Category 3), H226
Short-term (acute) aquatic hazard (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements

Pictogram

Signal Word : Warning
Hazard Statements
H226 Flammable liquid and vapor.
H402 Harmful to aquatic life.

Precautionary Statements
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P235 Store in a well-ventilated place. Keep cool.
P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS
May form explosive peroxides.
Repeated exposure may cause skin dryness or cracking.

SECTION 3: Composition/information on ingredients
3.1 Substances
Synonyms : EEP Solvent

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>ethyl 3-ethoxypropionate</td>
<td>Flam. Liq. 3; Aquatic Acute 3; H226, H402</td>
<td>&lt;= 100 %</td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures
4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.
**If inhaled**
After inhalation: fresh air. Consult doctor if feeling unwell.

**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. Remove contact lenses.

**If swallowed**

4.2 **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

4.3 **Indication of any immediate medical attention and special treatment needed**
No data available

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**SECTION 5: Firefighting measures**

5.1 **Extinguishing media**

Suitable extinguishing media
Carbon dioxide (CO2) Foam Dry powder

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

5.2 **Special hazards arising from the substance or mixture**
Carbon oxides
Combustible.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 **Advice for firefighters**
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 **Further information**
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.
6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.

6.3 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.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

Hygiene measures
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Storage conditions
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Test for peroxide formation periodically and before distillation.

Storage class
Storage class (TRGS 510): 3: Flammable liquids

7.3 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

8.1 Control parameters
Ingredients with workplace control parameters
Contains no substances with occupational exposure limit values.

8.2 Exposure controls
Appropriate engineering controls
Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.
Personal protective equipment

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

Skin protection
This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Full contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

Splash contact
Material: butyl-rubber
Minimum layer thickness: 0.7 mm
Break through time: 480 min
Material tested:Butoject® (KCL 898)

Body Protection
Flame retardant antistatic protective clothing.

Respiratory protection
Recommended Filter type: Filter A (acc. to DIN 3181) for vapours of organic compounds
The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.
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. Risk of explosion.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- a) Appearance
  - Form: clear, liquid
  - Color: colorless
- b) Odor
  - slight
c) Odor Threshold 0.02 ppm

d) pH No data available

e) Melting point/freezing point Freezing point: -50 °C (-58 °F) at 1,013 hPa

f) Initial boiling point and boiling range 166 °C 331 °F - lit.

g) Flash point 58 °C (136 °F)

h) Evaporation rate No data available

i) Flammability (solid, gas)

j) Upper/lower flammability or explosive limits
   Upper explosion limit: 62 % (V)
   Lower explosion limit: 1 % (V)

k) Vapor pressure 2.3 hPa at 20 °C (68 °F)

l) Vapor density 5.04

m) Density 0.95 g/mL at 25 °C (77 °F) - lit.
   Relative density 0.9520 °C 0.9340 °C

n) Water solubility 54.1 g/l at 20 °C (68 °F) - OECD Test Guideline 105 - completely soluble

o) Partition coefficient: n-octanol/water
   log Pow: 1.47 - Bioaccumulation is not expected.

p) Autoignition temperature 377 °C (711 °F) at 1,013 hPa

q) Decomposition temperature No data available

r) Viscosity 1.32 mm2/s at 20 °C (68 °F) - 0.97 mm2/s at 40 °C (104 °F)

s) Explosive properties No data available

t) Oxidizing properties none

9.2 Other safety information
   Surface tension 66 mN/m at 1.1g/l at 20 °C (68 °F) - OECD Test Guideline 115
   Relative vapor density 5.04

SECTION 10: Stability and reactivity

10.1 Reactivity
   Formation of peroxides possible.
   Vapor/air-mixtures are explosive at intense warming.

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10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).
Contains the following stabilizer(s):
formaldehyde (\(<=0.03\%\))
butyl hydroxytoluene (BHT) (\(<=0.01\%\))

10.3 Possibility of hazardous reactions
Violent reactions possible with:
Strong oxidizing agents
Strong bases
Strong acids
alkalines

10.4 Conditions to avoid
Exposure to air.
Heat, flames and sparks.
Heating.
Moisture.

10.5 Incompatible materials
Copper, Aluminum

10.6 Hazardous decomposition products
Peroxides
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
Acute toxicity estimate Oral - 4,309 mg/kg
(Calculation method)
LD50 Oral - Rat - female - 4,309 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male - 4 h - > 6.854 mg/l - vapor
(OECD Test Guideline 403)
Acute toxicity estimate Dermal - 4,080 mg/kg
(Calculation method)
LD50 Dermal - Rabbit - male - 4,080 mg/kg
(OECD Test Guideline 402)
LD50 Dermal - Rabbit - female - 4,680 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)
Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to
degreasing properties of the product.
**Serious eye damage/eye irritation**  
Eyes - Rabbit  
Result: No eye irritation - 1 s  
(OECD Test Guideline 405)

**Respiratory or skin sensitization**  
Freund’s complete adjuvant test - Guinea pig  
Result: Does not cause skin sensitization.  
(OECD Test Guideline 406)

**Germ cell mutagenicity**  
Test Type: Ames test  
Test system: Escherichia coli/Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative  
Test Type: Mutagenicity (mammal cell test): chromosome aberration.  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 473  
Result: negative  
Test Type: In vitro mammalian cell gene mutation test  
Test system: Chinese hamster ovary cells  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 476  
Result: negative

**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.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**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

### 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - 29 Days - NOAEL (No observed adverse effect level) - 1,000 mg/kg

RTECS: UF3325000  
Nausea, Headache, Vomiting, Central nervous system depression, Dizziness

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To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish
static test LC50 - Pimephales promelas (fathead minnow) - 45.3 mg/l - 96 h
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
static test EC50 - Daphnia magna (Water flea) - 785 mg/l - 48 h
(OECD Test Guideline 202)

Toxicity to algae
static test EC50 - Pseudokirchneriella subcapitata - > 114.86 mg/l - 72 h
(OECD Test Guideline 201)
static test NOEC - Pseudokirchneriella subcapitata - 114.86 mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to bacteria
static test IC50 - other microorganisms - > 5,000 mg/l - 16 h
Remarks: (ECHA)
static test NOEC - other microorganisms - 500 mg/l - 16 h
Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability
aerobic - Exposure time 13 d
Result: 80 % - Readily biodegradable.
(OECD Test Guideline 301B)

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects
Discharge into the environment must be avoided.
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14: Transport information

DOT (US)

UN number: 3272  Class: 3  Packing group: III
Proper shipping name: Esters, n.o.s.
Reportable Quantity (RQ):
Poison Inhalation Hazard: No

IMDG

UN number: 3272  Class: 3  Packing group: III  EMS-No: F-E, S-D
Proper shipping name: ESTERS, N.O.S. (ethyl 3-ethoxypropionate) (ethyl 3-ethoxypropionate)

IATA

UN number: 3272  Class: 3  Packing group: III
Proper shipping name: Esters, n.o.s. (ethyl 3-ethoxypropionate) (ethyl 3-ethoxypropionate)

SECTION 15: Regulatory information

SARA 302 Components
This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Fire Hazard

Massachusetts Right To Know Components

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<th>CAS-No.</th>
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SIGALD - 537586

The life science business of Merck KGaA, Darmstadt, Germany operates as MilliporeSigma in the US and Canada
Pennsylvania Right To Know Components

formaldehyde

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California Prop. 65 Components

formaldehyde

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<tr>
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<td>2007-09-28</td>
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Further information

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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