

Revision Date 06-Nov-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: (R)-(-)-2-Amino-1-butanol
Cat No. 244030000; 244030250; 244031000
Synonyms 1-Butanol, 2-amino-, (2R)-

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 4 |
| Skin Corrosion / irritation | Category 1 |
| Serious Eye Damage/Eye Irritation | Category 1 |

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) C - Corrosive
R -phrase(s) R22 - Harmful if swallowed
 R34 - Causes burns

Label Elements

2. HAZARDS IDENTIFICATION

**Signal Word****Danger****Hazard Statements**

H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

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

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P280 - Wear eye protection/face protection

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

P310 - Immediately call a POISON CENTER or doctor/physician

P301+ P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Other Hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | EC No. | Weight % | CAS-No | Classification | GHSCLAS |
|------------------------------|-----------------------|----------|-----------|-------------------|---|
| 1-Butanol, 2-amino-, (R)- | EEC No. 227- 476-4 | 95 | 5856-63-3 | Xn; R22 C; R34 | Skin Corr. 1B (H314) Acute Tox. 4 (H302) |

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

Do not induce vomiting 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 chemical foam

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Combustible material Flammable

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

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust) Keep in suitable and closed containers for disposal

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

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place Keep container tightly closed Keep away from heat and sources of ignition Corrosives area

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

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

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|---------------------------------|--|
| 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 | viscous liquid, Liquid |
| Appearance | Clear |
| odor | rotten-egg like |
| pH | 11.4 1% aq.solution |
| Boiling Point/Range | 172 - 174°C / 341.6 - 345.2°F @ 760 mmHg |
| Melting Point/Range | -2°C / 28.4°F |
| Flash Point | 90°C / 194°F |
| Water Solubility | miscible |
| Specific Gravity | 0.947 |
| Molecular Formula | C4 H11 N O |
| Molecular Weight | 89.14 |

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

Incompatible products.

Incompatible Materials

Acids, Metals, copper.

Hazardous Decomposition ProductsNitrogen oxides (NOx). Carbon 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

11. TOXICOLOGICAL INFORMATION

Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product

Sensitization

No information available.

Mutagenic Effects

No information available

Reproductive Effects

No information available.

Developmental Effects

No information available.

Target Organs

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated.

Endocrine Disruptor Information

None known

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products

Dispose of in accordance with local regulations

Contaminated Packaging

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

14. TRANSPORT INFORMATION

IMDG/IMO

| | |
|-----------------------------|-----------------------------------|
| UN-No | 2735 |
| Hazard Class | 8 |
| Packing Group | III |
| Proper Shipping Name | AMINES, LIQUID, CORROSIVE, N.O.S. |

ADR

| | |
|-----------------------------|-----------------------------------|
| UN-No | 2735 |
| Hazard Class | 8 |
| Packing Group | III |
| Proper Shipping Name | AMINES, LIQUID, CORROSIVE, N.O.S. |

14. TRANSPORT INFORMATION

IATA

| | |
|-----------------------------|------------------------------------|
| UN-No | 2735 |
| Hazard Class | 8 |
| Packing Group | III |
| Proper Shipping Name | AMINES, LIQUID, CORROSIVE, N.O.S.* |

15. REGULATORY INFORMATION

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

International Inventories

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | CHINA | AICS | KECL |
|---------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|---------------|
| 1-Butanol, 2-amino-, (R)- | 227-476-4 | - | | X | X | - | X | X | - | - | KE-01223 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

R22 - Harmful if swallowed

R34 - Causes burns

Revision Date 06-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