

Creation Date 10-Nov-2010

Revision Date 23-Mar-2012

Revision Number 3

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: (R)-(-)-2-Aminobutane
Cat No. 254240000; 254242500
Synonyms (R)-(-)-sec-Butylamine

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: 001-800-ACROS-01
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
 CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Skin Corrosion/Irritation	Category 1 A
Serious Eye Damage/Eye Irritation	Category 1
Acute aquatic toxicity	Category 1
Flammable liquids.	Category 2

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

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) F - Highly flammable
 C - Corrosive
 N - Dangerous for the environment

R-phrases(s) R11 - Highly flammable
 R35 - Causes severe burns
 R50 - Very toxic to aquatic organisms

Risk Combination Phrases R20/22 - Harmful by inhalation and if swallowed

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SECTION 2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

H302 - Harmful if swallowed
 H332 - Harmful if inhaled
 H314 - Causes severe skin burns and eye damage
 H400 - Very toxic to aquatic life
 H225 - Highly flammable liquid and vapor

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

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
 P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P273 - Avoid release to the environment
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

(R)-sec-Butylamine 13250-12-9	EEC No. 236-232-6	98	13250-12-9	F; R11 Xn; R20/22 C; R35 N; R50	Acute Tox. 4 (H302) Skin Corr. 1A (H314) Aquatic Acute 1 (H400) Flam. Liq. 2 (H225)	-
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For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16
SECTION 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 while removing all contaminated clothes and shoes. Immediate medical attention is required.

Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Drink plenty of water. Call a physician immediately. If possible drink milk afterwards.

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

SECTION 5. FIRE-FIGHTING MEASURES
Extinguishing media
Suitable Extinguishing Media

Carbon dioxide (CO₂). Dry chemical. Use water spray to cool unopened containers. chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Advice for fire-fighters

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

SECTION 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, closed containers for disposal.. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Provide adequate ventilation.

SECTION 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. Use explosion-proof equipment. Use only non-sparking tools.

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. Keep away from direct sunlight. Flammables area.

Specific End Uses

SECTION 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.

Component	European Union	The United Kingdom	France	Belgium	Spain
(R)-sec-Butylamine					Skin

Component	Austria	Denmark	Switzerland	Poland	Norway
(R)-sec-Butylamine					Skin Ceiling: 5 ppm : 15 mg/m ³

Biological limit values

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

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

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Exposure controls
Engineering Measures

Ensure adequate ventilation, especially in confined areas

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.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES
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Physical State

Liquid

Appearance

Colorless

odor

rotten-egg like

pH

No information available.

Vapor Density

2.52

Boiling Point/Range

57 - 60°C / 134.6 - 140°F @ 760 mmHg

Melting Point/Range

-104°C / -155.2°F

Flash Point

-19°C / -2.2°F

Autoignition Temperature

No information available.

Water Solubility

> 10 mg/L

Specific Gravity

0.720

Molecular Formula

C4 H11 N

Molecular Weight

73.13

SECTION 10. STABILITY AND REACTIVITY

Reactivity
Chemical Stability

Stable under normal conditions. Light sensitive. Air sensitive.

Possibility of Hazardous Reactions
Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions .

No information available.

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition, Exposure to air, Exposure to light, Incompatible products.

Incompatible Materials

Acids, Strong oxidizing agents, sodium hypochlorite, Acid chlorides, Metals, Carbon dioxide (CO2).

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Hazardous Decomposition ProductsNitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).**SECTION 11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity****Product Information** No acute toxicity information is available for this product**Component 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.
Endocrine Disruptor Information	None known

SECTION 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.

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Results of PBT and vPvB assessmentOther adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONSWaste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATIONIMDG/IMO

UN-No	UN3286
Hazard Class	3
Subsidiary Hazard Class	6.1, 8
Packing Group	II
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s

ADR

UN-No	UN3286
Hazard Class	3
Subsidiary Hazard Class	6.1, 8
Packing Group	II
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s

IATA

UN-No	UN3286
Hazard Class	3
Subsidiary Hazard Class	6.1, 8
Packing Group	II
Proper Shipping Name	Flammable liquid, toxic, corrosive, n.o.s

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

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Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
(R)-sec-Butylamine	236-232-6	-		-	-	-	-	X	-	-	X

Legend

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

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

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

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3

R11 - Highly flammable

R35 - Causes severe burns

R50 - Very toxic to aquatic organisms

R20/22 - Harmful by inhalation and if swallowed

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Revision Summary

Reason for revision Not applicable

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

Disclaimer

The information provided on this Safety Data Sheet 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