

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2010

Revision: 26.08.2010

## 1 Identification of substance

### Product details

Trade name

**(S)-(+)-2-Hexyl isocyanate**

Stock number:

L20235

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG  
Benzstrasse 3  
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com  
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz  
www.giftinfo.uni-mainz.de Telefon: +49(0)6131/19240

## 2 Hazards identification

Hazard designation:



T Toxic

Information pertaining to particular dangers for man and environment

R 10 Flammable.  
R 22 Harmful if swallowed.  
R 23 Toxic by inhalation.  
R 36/37/38 Irritating to eyes, respiratory system and skin.  
R 42 May cause sensitisation by inhalation.

GHS label elements

**Danger**

H330 - Fatal if inhaled.

**Danger**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Warning**

H226 - Flammable liquid and vapour.

**Warning**

H302 - Harmful if swallowed.

H315 - Causes skin irritation.

H319 - Causes serious eye irritation.

H335 - May cause respiratory irritation.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

P320 Specific treatment is urgent (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Prevention:

Response:

Storage:

Disposal:

## 3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

(S)-(+)-2-Hexyl isocyanate (CAS# 745783-78-2): 100%

## 4 First aid measures

General information

Instantly remove any clothing soiled by the product.  
Remove breathing apparatus only after soiled clothing has been completely removed.  
In case of irregular breathing or respiratory arrest provide artificial respiration.

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Seek immediate medical advice.

After eye contact

Instantly wash with water and soap and rinse thoroughly.

After swallowing

Seek immediate medical advice.

Rinse opened eye for several minutes under running water. Then consult doctor.

Seek immediate medical advice.

## 5 Fire fighting measures

Suitable extinguishing agents

CO<sub>2</sub>, sand, extinguishing powder. Do not use water.

For safety reasons unsuitable extinguishing agents

Water.

Special hazards caused by the material, its products of combustion or flue gases:

Can be released in case of fire:  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NO<sub>x</sub>)  
Hydrogen cyanide (HCN)

Protective equipment:

Wear self-contained breathing apparatus.  
Wear full protective suit.

## 6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Keep away from ignition sources

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of contaminated material as waste according to item 13.

Measures for cleaning/collecting:

Ensure adequate ventilation.

Keep away from ignition sources.

Additional information:

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

## 7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.  
Keep containers tightly sealed.  
Ensure good ventilation/exhaustion at the workplace.  
Open and handle container with care.

(Contd. on page 2)

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2010

Revision: 26.08.2010

## Trade name (S)-(+)-2-Hexyl isocyanate

(Contd. of page 1)

### Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.  
Fumes can combine with air to form an explosive mixture.

### Storage Requirements to be met by storerooms and containers: Information about storage in one common storage facility:

Refrigerate  
Protect from heat.  
Store away from water.  
Store away from oxidizing agents.

### Further information about storage conditions:

Store under dry inert gas.  
This product is moisture sensitive.  
Keep container tightly sealed.  
Protect from humidity and keep away from water.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.  
Refrigerate

## 8 Exposure controls and personal protection

### Additional information about design of technical systems:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

### Components with critical values that require monitoring at the workplace: Additional information:

Not required.  
No data

### Personal protective equipment General protective and hygienic measures

The usual precautionary measures should be adhered to in handling the chemicals.  
Keep away from foodstuffs, beverages and food.  
Instantly remove any soiled and impregnated garments.  
Wash hands during breaks and at the end of the work.  
Store protective clothing separately.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.  
Use breathing protection with high concentrations.  
Check protective gloves prior to each use for their proper condition.  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.  
Impervious gloves  
Not determined  
Safety glasses  
Face protection  
Protective work clothing.

### Breathing equipment: Protection of hands: Material of gloves

### Penetration time of glove material Eye protection:

### Body protection:

## 9 Physical and chemical properties:

### General Information

Form: Liquid  
Colour: Colourless  
Smell: Pungent

Change in condition  
Melting point/Melting range: Not determined  
Boiling point/Boiling range: Not determined  
Sublimation temperature / start: Not determined

Flash point: < 60°C

Ignition temperature: Not determined

Decomposition temperature: Not determined

Critical values for explosion:  
Lower: Not determined  
Upper: Not determined

Steam pressure: Not determined

Density: Not determined

Solubility in / Miscibility with Water: Hydrolyzes

## 10 Stability and reactivity

### Thermal decomposition / conditions to be avoided: Materials to be avoided:

No decomposition if used and stored according to specifications.  
Heat  
Water/moisture  
Alcohols  
Amines  
Oxidizing agents  
No dangerous reactions known  
Carbon monoxide and carbon dioxide  
Nitrogen oxides (NOx)  
Hydrogen cyanide (prussic acid)

### Dangerous reactions: Dangerous products of decomposition:

## 11 Toxicological information

### Acute toxicity: Primary irritant effect: on the skin: on the eye: Sensitization:

### Additional toxicological information:

### Sensitisation

Irritant for skin and mucous membranes.  
Lachrymatory effect.  
Sensitization possible by inhalation.  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.  
May cause sensitisation by inhalation.

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 26.08.2010

Revision: 26.08.2010

Trade name **(S)-(+)-2-Hexyl isocyanate**

(Contd. of page 2)

**12 Ecological information:**

Additional ecological information:  
General notes:

Do not allow material to be released to the environment without proper governmental permits.

**13 Disposal considerations**

Product:  
Recommendation

Hand over to disposers of hazardous waste.  
Must be specially treated under adherence to official regulations.  
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:  
Recommendation:

Disposal must be made according to official regulations.

**14 Transport information**

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)



ADR/RID-GGVS/E Class: 6.1 (TF1) Toxic substances.  
Kemler Number: 63  
UN-Number: 3080  
Packaging group: II  
Label: 6.1+3  
Designation of goods: 3080 ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. ((S)-(+)-2-Hexyl isocyanate)  
Limited quantities (LQ): LQ17  
Transport category: 2  
Tunnel restriction code: D/E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 6.1  
UN Number: 3080  
Label: 6.1+3  
Packaging group: II  
EMS Number: F-E, S-D  
Marine pollutant: No  
Correct technical name: ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. ((S)-(+)-2-Hexyl isocyanate)

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 6.1  
UN/ID Number: 3080  
Label: 6.1+3  
Packaging group: II  
Correct technical name: ISOCYANATES, TOXIC, FLAMMABLE, N.O.S. ((S)-(+)-2-Hexyl isocyanate)

UN "Model Regulation":

UN3080, ISOCYANATES, TOXIC, FLAMMABLE, N.O.S., 6.1 (3), II

**15 Regulatory information**

Designation according to EC guidelines:

Code letter and hazard designation of product:



T Toxic

Risk phrases:

10 Flammable.  
22 Harmful if swallowed.  
23 Toxic by inhalation.  
36/37/38 Irritating to eyes, respiratory system and skin.  
42 May cause sensitisation by inhalation.

Safety phrases:

23 Do not breathe fumes.  
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
36/37 Wear suitable protective clothing and gloves.  
45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National regulations

Information about limitation of use:

For use only by technically qualified individuals.  
Employment restrictions concerning young persons must be observed.

**16 Other information:**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms: ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

CAS: Chemical Abstracts Service (division of the American Chemical Society)