

Safety Data Sheet
according to 1907/2006/EC, Article 31

Revision: 26.08.2010

Printing date 26.08.2010

1 Identification of substance**Product details**

Trade name

(R)-(-)-2-Hexyl isocyanate

Stock number:

L20234

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#)

(R)-(-)-2-Hexyl isocyanate (CAS 745783-77-1): 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.

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

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

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

Seek immediate medical advice.

After inhalation

After skin contact

After eye contact

After swallowing

5 Fire fighting measures

Suitable extinguishing agents

CO₂, 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_x)

Hydrogen cyanide (HCN)

Wear self-contained breathing apparatus.

Wear full protective suit.

Protective equipment:

6 Accidental release measures

Person-related safety precautions:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Keep away from ignition sources

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.

Ensure adequate ventilation.

Keep away from ignition sources.

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Measures for environmental protection:

Measures for cleaning/collecting:

Additional information:

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.

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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:

Not required.

Additional information:

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.

Breathing equipment:

Use breathing protection with high concentrations.

Protection of hands:

Check protective gloves prior to each use for their proper condition.

Material of gloves

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.

Penetration time of glove material

Impervious gloves
Not determined

Eye protection:

Safety glasses

Body protection:

Face protection
Protective work clothing.

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

Dangerous reactions:

No dangerous reactions known

Dangerous products of decomposition:

Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Hydrogen cyanide (prussic acid)

11 Toxicological information**Acute toxicity:****Primary irritant effect:****on the skin:****on the eye:****Sensitization:****Additional toxicological information:**

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.

Sensitisation

May cause sensitisation by inhalation.

GB

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Trade name **(R)-(-)-2-Hexyl isocyanate**

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12 Ecological information:

Additional ecological information:
General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
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. ((R)-(-)-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. ((R)-(-)-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. ((R)-(-)-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.

Water hazard class:

Water hazard class 1 (Self-assessment): slightly hazardous for water.

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)