

# Safety Data Sheet

according to 1907/2006/EC, Article 31

Revision: 21.08.2010

Printing date 21.08.2010

## 1 Identification of substance

### Product details

Trade name

**Mandelonitrile**

Stock number:

L08698

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

N Dangerous for the environment

Information pertaining to particular dangers for man and environment

R 25 Toxic if swallowed.

R 38 Irritating to skin.

R 41 Risk of serious damage to eyes.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

GHS label elements

**Danger**

H301 - Toxic if swallowed.

**Danger**

H318 - Causes serious eye damage.

**Warning**

H400 - Very toxic to aquatic life.

H410 - Very toxic to aquatic life with long lasting effects.

**Warning**

H315 - Causes skin irritation.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

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

Specific treatment (see on this label).

P321

P405 Store locked up.

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

Response:

Storage:

Disposal:

## 3 Composition/information on ingredients

Chemical characterization:

Mandelonitrile (CAS# 532-28-5): 100%

Designation: (CAS#)

Identification number(s):

208-532-7

EINECS Number:

## 4 First aid measures

General information

Instantly remove any clothing soiled by the product.

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.

Do not induce vomiting; instantly call for medical help.

Seek immediate medical advice.

After skin contact

After eye contact

After swallowing

## 5 Fire fighting measures

Suitable extinguishing agents

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

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 (NOx)

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

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.

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

Additional information:

## 7 Handling and storage

Handling

Information for safe handling:

Handle under dry protective gas.

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Storage

Requirements to be met by storerooms and containers:

No special requirements.

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**Information about storage in one common storage facility:**

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.  
Store in cool, dry conditions in well sealed containers.  
Protect from humidity and keep away from water.  
Store in a locked cabinet or with access restricted to technical experts or their assistants.

## 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.  
No data

**Additional information:**

**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.  
Avoid contact with the skin.  
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.

**Breathing equipment:**

**Protection of hands:**

**Material of gloves**

Impervious gloves

**Penetration time of glove material**

Not determined

**Eye protection:**

Safety glasses  
Tightly sealed safety glasses.  
Face protection

**Body protection:**

Protective work clothing.

## 9 Physical and chemical properties:

### General Information

**Form:** Liquid  
**Colour:** Colourless  
**Smell:** Not determined

### Change in condition

**Melting point/Melting range:** -10°C  
**Boiling point/Boiling range:** 168-170°C  
**Sublimation temperature / start:** Not determined

**Flash point:** 97°C

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Danger of explosion:** Product is not explosive.

### Critical values for explosion:

**Lower:** Not determined  
**Upper:** Not determined

**Steam pressure:** Not determined

**Density at 20°C** 1.118 g/cm<sup>3</sup>

**Solubility in / Miscibility with Water at 20°C:** <1 g/l

## 10 Stability and reactivity

**Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

**Materials to be avoided:**

Water/moisture  
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:**

**LD/LC50 values that are relevant for classification:**

Oral	LD50	116 mg/kg (rat)
Irritation of eyes	severe	250 µg/24H (rabbit)

**Primary irritant effect:**

**on the skin:**

**on the eye:**

Irritant for skin and mucous membranes.  
Strong irritant with the danger of severe eye injury.  
Irritant effect.

**Sensitization:**

No sensitizing effect known.

**Other information (about experimental toxicology):**

Mutagenic effects have been observed on tests with bacteria.

**Additional toxicological information:**

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.

## 12 Ecological information:

**Ecotoxicological effects:**

**Remark:**

Very toxic for fish

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**Additional ecological information:**  
**General notes:**

Water danger class 3 (Self-assessment): extremely hazardous for water.  
 Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.  
 Danger to drinking water if even extremely small quantities leak into soil.  
 Also poisonous for fish and plankton in water bodies.  
 Do not allow material to be released to the environment without proper governmental permits.  
 Very toxic for aquatic organisms

## 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 (T1) Toxic substances.  
**Kemler Number:** 60  
**UN-Number:** 3276  
**Packaging group:** III  
**Label:** 6.1  
**Special marking:** Symbol (fish and tree)  
**Designation of goods:** 3276 NITRILES, TOXIC, LIQUID, N.O.S. (Mandelonitrile)

**Maritime transport IMDG/GGVSea:**


**IMDG/GGVSea Class:** 6.1  
**UN Number:** 3276  
**Label:** 6.1  
**Packaging group:** III  
**Marine pollutant:** No  
**Correct technical name:** NITRILES, TOXIC, LIQUID, N.O.S. (Mandelonitrile)

**Air transport ICAO-TI and IATA-DGR:**


**ICAO/IATA Class:** 6.1  
**UN/ID Number:** 3276  
**Label:** 6.1  
**Packaging group:** III  
**Correct technical name:** NITRILES, TOXIC, LIQUID, N.O.S. (Mandelonitrile)

**UN "Model Regulation":**

UN3276, NITRILES, TOXIC, LIQUID, N.O.S., 6.1, III  
 Environmentally hazardous substance, liquid; Marine Pollutant

**Environmental hazards:**

## 15 Regulatory information

**Designation according to EC guidelines:**
**Code letter and hazard designation of product:**


T Toxic  
 N Dangerous for the environment

**Risk phrases:**

25 Toxic if swallowed.  
 38 Irritating to skin.  
 41 Risk of serious damage to eyes.  
 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety phrases:**

23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).  
 23 Do not breathe fumes.  
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.  
 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 60 This material and its container must be disposed of as hazardous waste.  
 61 Avoid release to the environment. Refer to special instructions/safety data sheets.

**National regulations**
**Information about limitation of use:**

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

**Water hazard class:**

Water danger class 3 (Self-assessment): extremely 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)

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GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
EINECS: European Inventory of Existing Commercial Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent

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