

1 Identification of the substance/mixture and of the company/undertaking**Product identifier****Trade name****Allyl alcohol****Stock number:**

A15026

CAS Number:

107-18-6

EINECS Number:

203-470-7

Index number:

603-015-00-6

Relevant identified uses of the substance or mixture and uses advised against**Sector of Use**

SU24 Scientific research and development

Details of the supplier of the safety data sheet**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 telephone number:Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240**2 Hazards identification****Classification of the substance or mixture****Classification according to Regulation (EC) No 1272/2008**

GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



GHS06 skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

Acute Tox. 3 H311 Toxic in contact with skin.

Acute Tox. 3 H331 Toxic if inhaled.



GHS09 environment

Aquatic Acute 1 H400 Very toxic to aquatic life.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

T; Toxic

R23/24/25: Toxic by inhalation, in contact with skin and if swallowed.



Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.



N; Dangerous for the environment

R50: Very toxic to aquatic organisms.

R10: Flammable.

Information concerning particular hazards for human and environment:

Not applicable

Label elements**Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms**

The substance is classified and labelled according to the CLP regulation.



GHS02 GHS06 GHS09

Signal word

Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H301 Toxic if swallowed.

H311 Toxic in contact with skin.

H331 Toxic if inhaled.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H400 Very toxic to aquatic life.

Precautionary statements

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

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.

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

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

Other hazards**Results of PBT and vPvB assessment****PBT:**

Not applicable.

vPvB:

Not applicable.

3 Composition/information on ingredients**Chemical characterization: Substances****(CAS#) Designation:**

107-18-6 Allyl alcohol

Identification number(s):**EINECS Number:**

203-470-7

Index number:

603-015-00-6

4 First aid measures**Description of 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.

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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. Instantly wash with water and soap and rinse thoroughly.
After eye contact	Seek immediate medical advice.
After swallowing	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.
Information for doctor	
Most important symptoms and effects, both acute and delayed	No further relevant information available.
Indication of any immediate medical attention and special treatment needed	No further relevant information available.

5 Firefighting measures

Extinguishing media	
Suitable extinguishing agents	CO ₂ , sand, extinguishing powder. Do not use water.
For safety reasons unsuitable extinguishing agents	Water.
Special hazards arising from the substance or mixture	Can be released in case of fire: Carbon monoxide and carbon dioxide
Advice for firefighters	
Protective equipment:	Wear self-contained breathing apparatus. Wear full protective suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures	Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources
Environmental precautions:	Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up:	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.
Reference to other sections	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	
Precautions for safe handling	Keep containers tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace. Open and handle container with care.
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.
Conditions for safe storage, including any incompatibilities	
Storage	
Requirements to be met by storerooms and containers:	No special requirements.
Information about storage in one common storage facility:	Store away from oxidizing agents.
Further information about storage conditions:	Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Store in a locked cabinet or with access restricted to technical experts or their assistants.
Specific end use(s)	No further relevant information available.

8 Exposure controls/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.
Control parameters	
Components with critical values that require monitoring at the workplace:	

107-18-6 Allyl alcohol (100.0%)

WEL ()	Short-term value: 9.7 mg/m ³ , 4 ppm
Sk	Long-term value: 4.8 mg/m ³ , 2 ppm

Additional information:	No data
Exposure controls	
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. Avoid contact with the eyes and skin. Use breathing protection with high concentrations.
Breathing equipment:	Check protective gloves prior to each use for their proper condition.
Protection of hands:	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.
Material of gloves	Impervious gloves
Penetration time of glove material	Not determined
Eye protection:	Safety glasses Face protection
Body protection:	Protective work clothing.

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9 Physical and chemical properties**Information on basic physical and chemical properties****General Information****Appearance:**

Form: Liquid
Colour: Colourless
Smell: Pungent
Odour threshold: Not determined.

pH-value: Not determined.

Change in condition

Melting point/Melting range: -129°C
Boiling point/Boiling range: 97°C
Sublimation temperature / start: Not determined

Flash point: 22°C

Inflammability (solid, gaseous) Not applicable.

Ignition temperature: 375°C

Decomposition temperature: Not determined

Self-inflammability: Not determined.

Critical values for explosion:

Lower: 2.5 Vol %
Upper: 18 Vol %

Steam pressure at 20°C: 24 hPa

Density at 20°C 0.85 g/cm³

Relative density Not determined.

Vapour density Not determined.

Evaporation rate Not determined.

Solubility in / Miscibility with Water: Fully miscible

Segregation coefficient (n-octanol/water): Not determined.

Viscosity:

dynamic: Not determined.

kinematic: Not determined.

Other information No further relevant information available.

10 Stability and reactivity**Reactivity****Chemical stability****Thermal decomposition / conditions to be avoided:**

No decomposition if used and stored according to specifications.

Possibility of hazardous reactions

No dangerous reactions known

Incompatible materials:

Oxidizing agents

Hazardous decomposition products:

Carbon monoxide and carbon dioxide

11 Toxicological information**Information on toxicological effects****Acute toxicity:****LD/LC50 values that are relevant for classification:**

Oral	LD50	64 mg/kg (rat)
Dermal	LD50	45 mg/kg (rabbit)

Primary irritant effect:

on the skin: Irritant for skin and mucous membranes.

on the eye: Irritant effect.

Sensitization: No sensitizing effect known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

Danger by skin resorption.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute and/or other multiple dose toxicity data for components in this product.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive and/or mutation data for components in this product.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

12 Ecological information**Toxicity**

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Behaviour in environmental systems:

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Ecotoxicological effects: Very toxic for fish

Remark:**Additional ecological information:**

General notes: Do not allow product to reach ground water, water bodies or sewage system.
 Water hazard class 2 (Assessment by list): hazardous for water.
 Danger to drinking water if even 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

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

13 Disposal considerations**Waste treatment methods**

Recommendation Hand over to disposers of hazardous waste.
 Must be specially treated under adherence to official regulations.

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Consult state, local or national regulations for proper disposal.

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Uncleaned packagings:**Recommendation:****Recommended cleaning agent:**

Disposal must be made according to official regulations.

Water, if necessary with cleaning agent.

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: 663
 UN-Number: 1098
 Packaging group: I
 Label: 6.1+3
 Special marking: Symbol (fish and tree)
 UN proper shipping name: 1098 ALLYL ALCOHOL
 Limited quantities (LQ): LQ0
 Transport category: 1
 Tunnel restriction code: C/D

Maritime transport IMDG/GGVSea:

IMDG/GGVSea Class: 6.1
 UN Number: 1098
 Label: 6.1+3
 Packaging group: I
 EMS Number: F-E, S-D
 Marine pollutant: No
 Correct technical name: ALLYL ALCOHOL

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 6.1
 UN/ID Number: 1098
 Label: 6.1+3
 Packaging group: I
 Correct technical name: ALLYL ALCOHOL

UN "Model Regulation":

UN1098, ALLYL ALCOHOL, 6.1 (3), I
 Environmentally hazardous substance, liquid; Marine Pollutant
 Warning: Toxic substances.

Environmental hazards:**Special precautions for user****Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

15 Regulatory information**Safety, health and environmental regulations/legislation specific for the substance or mixture****Labelling according to Regulation (EC) No 1272/2008****Hazard pictograms**

The substance is classified and labelled according to the CLP regulation.



GHS02 GHS06 GHS09

Signal word

Danger

Hazard statements

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

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

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

Technical instructions (air):

Class	Share in %
I	100.0

Water hazard class:

Water hazard class 2 (Assessment by list): hazardous for water.

Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

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 C. Holt
 Global EHS Manager

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Trade name *Allyl alcohol***Abbreviations and acronyms:**

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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
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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