

1 Identification of substance**Product details**

Trade name: **Benzaldehyde**
Stock number: A10348
L03193
Manufacturer/Supplier: Alfa Aesar
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Informing department: Product safety department.
Emergency information: Call Carechem 24 at +44 (0) 1865 407333

2 Hazards identification**Hazard designation:**

Xn Harmful

Information pertaining to particular dangers for man and environment GHS label elements

R 22 Harmful if swallowed.

**Warning**H302 - Harmful if swallowed.
P262 Do not get in eyes, on skin, or on clothing.**Prevention:****3 Composition/information on ingredients**

Chemical characterization:
Designation: (CAS#) Benzaldehyde (CAS# 100-52-7)
Identification number(s):
EINECS Number: 202-860-4
Index number: 605-012-00-5

4 First aid measures

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. Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.
For safety reasons unsuitable extinguishing agents Water with a full water jet.
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
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
Measures for environmental protection: Do not allow material to be released to the environment without proper governmental permits.
Measures for cleaning/collecting: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to item 13.
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. Store in cool, dry place in tightly closed containers. Ensure good ventilation/exhaustion at the workplace.
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.
Information about storage in one common storage facility: Store away from oxidizing agents. Store away from air. Store away from strong bases.
Further information about storage conditions: Store under dry inert gas. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. This product is air sensitive.

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

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

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Personal protective equipment	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.
General protective and hygienic measures	
Breathing equipment:	Use breathing protection with high concentrations. Check protective gloves prior to each use for their proper condition.
Protection of hands:	
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. Impervious gloves
Penetration time of glove material	Not determined
Eye protection:	Safety glasses Face protection
Body protection:	Protective work clothing.

9 Physical and chemical properties:**General Information**

Form:	Liquid
Colour:	Colourless
Smell:	Almond-like

Change in condition	
Melting point/Melting range:	-56°C
Boiling point/Boiling range:	178-179°C
Sublimation temperature / start:	Not determined

Flash point:	64°C
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Ignition temperature:	190°C
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Decomposition temperature:	Not determined
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Danger of explosion:	Product is not explosive.
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Critical values for explosion:	
Lower:	Not determined
Upper:	Not determined

Steam pressure:	Not determined
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Density at 20°C	1.047 g/cm ³
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Solubility in / Miscibility with Water at 20°C:	3.3 g/l
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10 Stability and reactivity

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Oxidizing agents Air Bases Alkali metals Aluminum and aluminum alloys.
Dangerous reactions:	No dangerous reactions known
Dangerous products of decomposition:	Carbon monoxide and carbon dioxide

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

Oral	LD50	2020 mg/kg (mouse) 1300 mg/kg (rat)
	LDLo	714.3 mg/kg (human)
Dermal	LD50	>1250 mg/kg (rabbit)
Inhalative	LC50/4H	>3000 mg/m ³ /4H (rat)
Irritation of eyes	moderate	unknown mg (rabbit)

Primary irritant effect:	
on the skin:	Irritant for skin and mucous membranes.
on the eye:	Irritant effect.
Sensitization:	No sensitizing effect known.
Other information (about experimental toxicology):	Tumorigenic effects have been observed on tests with laboratory animals. Mutagenic effects have been observed on tests with human lymphocytes. Mutagenic effects have been observed on tests with laboratory animals.
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:

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.
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13 Disposal considerations

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

Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.

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14 Transport information

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



ADR/RID-GGVS/E Class: 9 (M11) Miscellaneous dangerous substances and articles.
 Kemler Number: 90
 UN-Number: 1990
 Packaging group: III
 Label: 9
 Designation of goods: 1990 BENZALDEHYDE
 Limited quantities (LQ): LQ28
 Transport category: 3
 Tunnel restriction code: E

Maritime transport IMDG/GGVSea:



IMDG/GGVSea Class: 9
 UN Number: 1990
 Label: 9
 Packaging group: III
 EMS Number: F-A, S-A
 Marine pollutant: No
 Correct technical name: BENZALDEHYDE

Air transport ICAO-TI and IATA-DGR:



ICAO/IATA Class: 9
 UN/ID Number: 1990
 Label: 9
 Packaging group: III
 Correct technical name: BENZALDEHYDE

UN "Model Regulation":

UN1990, BENZALDEHYDE, 9, III

15 Regulatory information

Designation according to EC guidelines:

Code letter and hazard designation of product:



Xn Harmful

Risk phrases:

22 Harmful if swallowed.

Safety phrases:

24 Avoid contact with skin.

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 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
 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