

## SAFETY DATA SHEET

Creation Date 27-Sep-2010

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Benzaldehyde

**Cat No. :** A10348

**CAS-No** 100-52-7  
**Synonyms** Benzenecarboxaldehyde; artificial almond oil; benzene carbaldehyde

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

#### Company

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

#### **Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	Category 4
Acute oral toxicity	Category 4
Acute Inhalation Toxicity - Vapors	Category 4
Serious Eye Damage/Eye Irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Target Organs - Respiratory system, Central nervous system (CNS).	

#### Label Elements

#### **Signal Word**

Warning

#### **Hazard Statements**

Combustible liquid  
Causes serious eye irritation  
May cause respiratory irritation

Harmful if swallowed or if inhaled



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Use only outdoors or in a well-ventilated area  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep cool

#### Response

Get medical attention/advice if you feel unwell

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 If eye irritation persists: Get medical advice/attention

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

## 3. Composition/Information on Ingredients

Component	CAS-No	Weight %
Benzaldehyde	100-52-7	>95

## 4. First-aid measures

#### Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

#### Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

#### Inhalation

Remove to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately if symptoms occur.

<b>Ingestion</b>	Do NOT induce vomiting. Call a physician or poison control center immediately.
<b>Most important symptoms and effects</b>	Difficulty in breathing. . Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting
<b>Notes to Physician</b>	Treat symptomatically

## 5. Fire-fighting measures

<b>Suitable Extinguishing Media</b>	Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.
<b>Unsuitable Extinguishing Media</b>	No information available
<b>Flash Point</b>	64 °C / 147.2 °F
<b>Method -</b>	No information available
<b>Autoignition Temperature</b>	190 °C / 374 °F
<b>Explosion Limits</b>	
<b>Upper</b>	8.5 vol %
<b>Lower</b>	1.4 vol %
<b>Sensitivity to Mechanical Impact</b>	No information available
<b>Sensitivity to Static Discharge</b>	No information available

### Specific Hazards Arising from the Chemical

Combustible material. Containers may explode when heated.

### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

### NFPA

<b>Health</b> 2	<b>Flammability</b> 2	<b>Instability</b> 0	<b>Physical hazards</b> N/A
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## 6. Accidental release measures

<b>Personal Precautions</b>	Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges.
<b>Environmental Precautions</b>	Should not be released into the environment. See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system.
<b>Methods for Containment and Clean Up</b>	Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

<b>Handling</b>	Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges.
<b>Storage</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Keep under nitrogen.

## 8. Exposure controls / personal protection

### Exposure Guidelines

**Engineering Measures** Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear
<b>Odor</b>	bitter almonds
<b>Odor Threshold</b>	No information available
<b>pH</b>	5.9
<b>Melting Point/Range</b>	-26 °C / -14.8 °F
<b>Boiling Point/Range</b>	179 °C / 354.2 °F
<b>Flash Point</b>	64 °C / 147.2 °F
<b>Evaporation Rate</b>	No information available
<b>Flammability (solid,gas)</b>	Not applicable
<b>Flammability or explosive limits</b>	
<b>Upper</b>	8.5 vol %
<b>Lower</b>	1.4 vol %
<b>Vapor Pressure</b>	No information available
<b>Vapor Density</b>	No information available
<b>Specific Gravity</b>	1.043
<b>Solubility</b>	No information available
<b>Partition coefficient; n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	190 °C / 374 °F
<b>Decomposition Temperature</b>	No information available
<b>Viscosity</b>	No information available
<b>Molecular Formula</b>	C7 H6 O
<b>Molecular Weight</b>	106.12

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Light sensitive, Air sensitive.

**Conditions to Avoid** Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. Exposure to light.

**Incompatible Materials** Strong oxidizing agents, Strong reducing agents, Strong bases, oxygen, Aluminium, copper,

Copper alloys, Alkali metals

**Hazardous Decomposition Products** Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)**Hazardous Polymerization** Hazardous polymerization does not occur.**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

**Acute Toxicity****Product Information  
Component Information**

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Benzaldehyde	1430 mg/kg (Rat)	2500 mg/kg (Rabbit)	1-5 mg/L/4h (Rat)

**Toxicologically Synergistic Products** No information available**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Irritation** Irritating to eyes and skin**Sensitization** No information available**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Benzaldehyde	100-52-7	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects** Not mutagenic in AMES Test**Reproductive Effects** No information available.**Developmental Effects** No information available.**Teratogenicity** No information available.**STOT - single exposure** Respiratory system Central nervous system (CNS)**STOT - repeated exposure** None known**Aspiration hazard** No information available**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting**Endocrine Disruptor Information** No information available**Other Adverse Effects** Tumorigenic effects have been reported in experimental animals.

## 12. Ecological information

**Ecotoxicity**

Do not empty into drains. Contains a substance which is: Very toxic to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Benzaldehyde	Not listed	LC50: = 7.5 mg/L, 96h static (Lepomis macrochirus) LC50: 6.8 - 8.53 mg/L, 96h flow-through (Pimephales promelas) LC50: 0.8 - 1.44 mg/L, 96h flow-through (Lepomis)	Not listed	EC50: = 50 mg/L, 24h (Daphnia magna)

		macrochirus) LC50: 10.6 - 11.8 mg/L, 96h flow-through (Oncorhynchus mykiss) LC50: = 12.69 mg/L, 96h static (Oncorhynchus mykiss)		
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**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** .

Component	log Pow
Benzaldehyde	1.5

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

UN-No UN1990  
Proper Shipping Name BENZALDEHYDE  
Hazard Class 9  
Packing Group III

#### TDG

UN-No UN1990  
Proper Shipping Name BENZALDEHYDE  
Hazard Class 9  
Packing Group III

#### IATA

UN-No UN1990  
Proper Shipping Name Benzaldehyde  
Hazard Class 9  
Packing Group III

#### IMDG/IMO

UN-No UN1990  
Proper Shipping Name Benzaldehyde  
Hazard Class 9  
Packing Group III

### 15. Regulatory information

#### United States of America Inventory

Component	CAS-No	TSCA	TSCA Inventory notification - Active/Inactive	TSCA - EPA Regulatory Flags
Benzaldehyde	100-52-7	X	ACTIVE	-

#### **Legend:**

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

Component	CAS-No	DSL	NDSL	EINECS	PICCS	ENCS	AICS	IECSC	KECL
Benzaldehyde	100-52-7	X	-	202-860-4	X	X	X	X	KE-02713

**U.S. Federal Regulations**

<b>SARA 313</b>	Not applicable
<b>SARA 311/312 Hazard Categories</b>	See section 2 for more information
<b>CWA (Clean Water Act)</b>	Not applicable
<b>Clean Air Act</b>	Not applicable
<b>OSHA - Occupational Safety and Health Administration</b>	Not applicable
<b>CERCLA</b>	Not applicable
<b>California Proposition 65</b>	This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Benzaldehyde	X	X	X	-	-

**U.S. Department of Transportation**

Reportable Quantity (RQ):	N
DOT Marine Pollutant	N
DOT Severe Marine Pollutant	N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

## 16. Other information

<b>Prepared By</b>	Health, Safety and Environmental Department Email: tech@alfa.com www.alfa.com
<b>Creation Date</b>	27-Sep-2010
<b>Revision Date</b>	14-Feb-2020
<b>Print Date</b>	14-Feb-2020
<b>Revision Summary</b>	SDS authoring systems update, replaces ChemGes SDS No. 100-52-7/3.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**