

SAFETY DATA SHEET

Preparation Date: 5/23/2016

Revision Date: 5/23/2016

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: B1065
Product Name: BENZALDEHYDE, REAGENT

Other means of identification

Synonyms: Benzene carbaldehyde
 Benzenecarbonal
 Benzoic aldehyde
 Phenylmethanal

CAS #: 100-52-7
RTECS # CU4375000
Cl#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Chemical intermediate. Solvent.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Ibad Tirmiz (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous according to the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
 Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2B
Skin sensitization	Category 1
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 4

Label elements

Warning

Hazard statements

Harmful if swallowed
Causes skin irritation
Causes eye irritation
May cause an allergic skin reaction
May cause respiratory irritation. May cause drowsiness or dizziness
Combustible liquid



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Contaminated work clothing must not be allowed out of the workplace
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Wear protective gloves

Precautionary Statements - Response

In case of fire: Use CO₂, dry chemical, or foam to extinguish.
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.
IF ON SKIN: Wash with plenty of water
Take off contaminated clothing and wash it before reuse
If skin irritation or rash occurs: Get medical advice/attention
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Storage

Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Benzaldehyde 100-52-7	100-52-7	100

4. FIRST AID MEASURES

First aid measures

General Advice:

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. First aider needs to protect himself. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact:

Flush eyes with water for 15 minutes. Get medical attention.

Inhalation:

Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes eye irritation. Causes skin irritation. Irritating to respiratory system. May cause digestive (gastrointestinal) tract irritation. Abdominal pain. May cause dyspepsia. May cause nausea. May cause coughing and shortness of breath. Respiratory depression. Central nervous system effects. Dizziness. Drowsiness. Somnolence. May cause seizures. May affect behavior/central nervous system (tremor, convulsions). Headache. Fainting. May affect the liver. It may affect the blood. It may affect the kidneys. Increase in urine volume. May cause an allergic skin reaction.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Carbon dioxide (CO₂). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media:

No information available.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon Monoxide; Carbon Dioxide

Specific hazards:

Combustible material
May be ignited by heat, sparks or flames
Container explosion may occur under fire conditions or when heated

Special Protective Actions for Firefighters

Specific Methods:

No information available.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded.

Environmental precautions Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth). In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapors or spray mist. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Store away from incompatible materials. Store in a segregated and approved area. Protect from light. Sensitive to light. Store in light-resistant containers. Store under inert gas. Flush with nitrogen.

Incompatible Materials:

Oxidizing agents. Strong bases. Strong acids. Amines.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

U.S Occupational Exposure Limits: Not determined

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Benzaldehyde 100-52-7	None	None	None	= 2 ppm TWA = 4 ppm STEL

Canada

Canada Occupational Exposure Limits: Not determined

Components	Alberta	British Columbia	Ontario	Quebec
Benzaldehyde 100-52-7	None	None	4 ppm STEL 17 mg/m ³ STEL	None

Australia and Mexico

Occupational Exposure Limits for Australia and Mexico: Not determined

Components	Australia	Mexico
Benzaldehyde 100-52-7	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles
- Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

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Physical state: Liquid	Appearance: Oily.	Color: Colorless to pale yellow.
Odor: Bitter almond.	Taste No information available	Formula: C7H6O
Molecular/Formula weight: 106.12	Flammability: Combustible	Flashpoint (°C/°F): 63 °C/145.4 °F 73.9 °C/165 °F
Flash Point Tested according to: Closed cup Open cup	Autoignition Temperature (°C/°F): 190-192 °C/374-377.6 °F	Lower Explosion Limit (%): 1.4
Upper Explosion Limit (%): 8.5	pH: No information available	Melting point/range(°C/°F): -26 °C/-14.8 °F
Decomposition temperature(°C/°F): No information available	Boiling point/range(°C/°F): 179 °C/354.2 °F	Bulk density: No information available
Density (g/cm3): No information available	Specific gravity: 1.04-1.05	Vapor pressure @ 20°C (kPa): 0.017 @ 25 deg. C.
Evaporation rate: No information available	Vapor density: 3.66	VOC content (g/L): No information available
Odor threshold (ppm): 0.042	Partition coefficient (n-octanol/water): 1.48	Viscosity: No information available
Miscibility: Miscible with Ether Miscible with alcohol	Solubility: Slightly soluble in water Solubility in Water: 6.55 g/l @ 25 °C Soluble in liquid ammonia	

10. STABILITY AND REACTIVITY

Reactivity

Reacts violently with oxidizers
Benzaldehyde will react violently with 90% performic acid
Reactive with oxidizing agents, strong acids, and strong bases.

Chemical stability

Stability: Stable under recommended storage conditions. Oxidizes in air to Benzoic acid. Sensitive to light. Becomes yellowish on keeping.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Exposure to light. Exposure to air. Incompatible materials.

Incompatible Materials: Oxidizing agents. Strong bases. Strong acids. Amines.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Skin. Eyes. Ingestion. Inhalation.

Acute Toxicity

Component Information

Benzaldehyde - 100-52-7

LD50/oral/rat = 1292 mg/kg Oral LD50 Rat

LD50/oral/mouse = 2020 mg/kg (RTECS)

800-1600 (EU Chemical Bureau IUCLID dataset)

LD50/dermal/rabbit = >1250 mg/kg Dermal LD50Rabbit

LD50/dermal/rat = No information available

LC50/inhalation/rat = No information available

LC50/inhalation/mouse = No information available

Other LD50 or LC50 information = 1000 mg/kg oral LD50 Guinea pig

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 1292mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 2020mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = >1250mg/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = No information available

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact: Causes skin irritation. It may be absorbed through the skin.

Eye Contact: Causes eye irritation.

Inhalation Causes respiratory tract irritation.. May affect behavior/central nervous system. May cause central nervous system depression. Inhalation of vapors may cause drowsiness and dizziness. Symptoms may include coughing and shortness of breath. May affect behavior/central nervous system (somnolence). It may affect behavior/central nervous system (convulsions/seizures). Inhalation of high concentrations may cause central nervous system effects characterized by headache, dizziness, lightheadness, fainting, unconsciousness, coma.

Ingestion May cause digestive (gastrointestinal) tract irritation. May cause nausea. May cause abdominal pain. May cause dyspepsia. May affect behavior/central nervous system (somnolence, tremor). May affect behavior/central nervous system (coma). May affect respiration (respiratory depression). May cause increase in urine volume.

Aspiration hazard No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity Skin: Sensitizer. May cause allergic skin reaction (allergic contact dermatitis). Prolonged or repeated ingestion or inhalation may affect the liver. Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated inhalation may affect the blood (changes in white blood cell count). Prolonged or repeated inhalation may cause central nervous system effects. Prolonged or repeated inhalation may cause respiratory depression and dyspnea (shortness of breath and difficulty breathing). Prolonged or repeated ingestion may affect the kidneys.

Sensitization: May cause sensitization by skin contact

Mutagenic Effects: No information available

Carcinogenic effects: Not considered carcinogenic

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Benzaldehyde	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

Reproductive toxicity No data is available

Reproductive Effects: No information available

Developmental Effects: No information available

Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure Respiratory system. central nervous system.

STOT - repeated exposure No information available

Target Organs: Skin.

12. ECOLOGICAL INFORMATION

Ecotoxicity

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: Aquatic environment.

Benzaldehyde - 100-52-7

Freshwater Fish Species Data: 12.69 mg/L LC50 Oncorhynchus mykiss 96 h static 1
0.8-1.44 mg/L LC50 Lepomis macrochirus 96 h flow-through 1
6.8-8.53 mg/L LC50 Pimephales promelas 96 h flow-through 1
10.6-11.8 mg/L LC50 Oncorhynchus mykiss 96 h flow-through 1
7.5 mg/L LC50 Lepomis macrochirus 96 h static 1

Water Flea Data: 50 mg/L EC50 Daphnia magna 24 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Benzaldehyde	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
ERG No: 129
Marine Pollutant: No data available
DOT RQ (lbs): No information available
Special Provisions: No Information available
Symbol(s): +

TDG (Canada)

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No Information available

14. TRANSPORT INFORMATION

ADR

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Packing Group: III
Subsidiary Risk: No information available

IMO / IMDG

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
Marine Pollutant: No information available
EMS: F-A

RID

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III

ICAO

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III

IATA

UN-No: UN1990
Proper Shipping Name: Benzaldehyde
Hazard Class: 9
Subsidiary Risk: No information available
Packing Group: III
ERG Code: 9N
Special Provisions: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Benzaldehyde</i>	Present	Present KE-02713	Present	Present (3)-1142	Present	Present	Present 202-860-4

U.S. Regulations

Benzaldehyde

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0196
Pennsylvania RTK: Present
Minnesota - Hazardous Substance List: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.60
FDA - 21 CFR - Total Food Additives: 182.60

Benzaldehyde

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Benzaldehyde	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Benzaldehyde	None	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Benzaldehyde	Not Applicable	09/30/199106/30/1998

Canada

WHMIS hazard class:

D2B Toxic materials
B3 Combustible liquid

Benzaldehyde

B3 D2B

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Benzaldehyde	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Benzaldehyde	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances
Benzaldehyde	Not listed

Components	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Benzaldehyde	Not listed

EU Classification

Product code: B1065

Product name: BENZALDEHYDE,
REAGENT

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R-phrase(s)

R22 - Harmful if swallowed.

S -phrase(s)

S 2 - Keep out of the reach of children.

S24 - Avoid contact with skin.

Components	Classification	Concentration Limits:	Safety Phrases
Benzaldehyde	Xn; R22	No information	S2 S24

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful.

Xn

**16. OTHER INFORMATION**

Preparation Date: 5/23/2016
Revision Date: 5/23/2016
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Safety Data Sheet