

## SAFETY DATA SHEET

Version 6.6  
Revision Date 07/05/2021  
Print Date 05/28/2022

**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Salicylaldehyde

Product Number : 84160  
Brand : Aldrich  
CAS-No. : 90-02-8

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

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 SPRUCE ST  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765  
Fax : +1 800 325-5052

**1.4 Emergency telephone**

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-  
527-3887 CHEMTREC (International) 24  
Hours/day; 7 Days/week

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 4), H227  
Acute toxicity, Oral (Category 4), H302  
Skin irritation (Category 2), H315  
Eye irritation (Category 2A), H319  
Germ cell mutagenicity (Category 2), H341  
Specific target organ toxicity - repeated exposure (Category 2), Nervous system, Kidney,  
Liver, Skin, H373  
Short-term (acute) aquatic hazard (Category 2), H401  
Long-term (chronic) aquatic hazard (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Warning

Hazard statement(s)

H227 Combustible liquid.  
H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H341 Suspected of causing genetic defects.  
H373 May cause damage to organs (Nervous system, Kidney, Liver, Skin) through prolonged or repeated exposure.  
H411 Toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 Obtain special instructions before use.  
P202 Do not handle until all safety precautions have been read and understood.  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.  
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
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.  
P308 + P313 IF exposed or concerned: Get medical advice/ attention.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
P391 Collect spillage.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 2-Hydroxybenzaldehyde  
Formula : C<sub>7</sub>H<sub>6</sub>O<sub>2</sub>  
Molecular weight : 122.12 g/mol

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CAS-No. : 90-02-8  
EC-No. : 201-961-0

| Component              | Classification  | Concentration |
|------------------------|---|---------------|
| <b>salicylaldehyde</b> |   |               |
|                        | Flam. Liq. 4; Acute Tox. 4;<br>Skin Irrit. 2; Aquatic Acute<br>2; Aquatic Chronic 2;<br>H227, H302, H315, H401,<br>H411 | <= 100 %      |

|               |  |              |
|---------------|--|--------------|
| <b>Phenol</b> |  |              |
|               | Acute Tox. 3; Skin Corr.<br>1B; Eye Dam. 1; Muta. 2;<br>STOT RE 2; Aquatic Acute<br>2; Aquatic Chronic 2;<br>H301, H331, H311, H314,<br>H318, H341, H373, H401,<br>H411<br>Concentration limits:<br>>= 3 %: Skin Corr. 1B,<br>H314; 1 - < 3 %: Skin<br>Irrit. 2, H315; 1 - < 3 %:<br>Eye Irrit. 2, H319; | >= 1 - < 3 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first-aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

After inhalation: fresh air. Call in physician.

#### In case of skin contact

After contact with skin: rinse out with polyethylene glycol 400 or a mixture of polyethylene glycol 300/ethanol 2:1 and wash with plenty of water. If neither is available wash with plenty of water. Immediately take off contaminated clothing. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

#### If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5: Firefighting measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.2 Special hazards arising from the substance or mixture**

Carbon oxides

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapours possible in the event of fire.

### **5.3 Advice for firefighters**

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### **5.4 Further information**

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6: Accidental release measures**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### **6.2 Environmental precautions**

Do not let product enter drains.

### **6.3 Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb® ).

Dispose of properly. Clean up affected area.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7: Handling and storage**

### **7.1 Precautions for safe handling**

#### **Advice on protection against fire and explosion**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

#### **Hygiene measures**

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## 7.2 Conditions for safe storage, including any incompatibilities

### Storage conditions

Tightly closed.

Light sensitive. Store under inert gas. Air sensitive.

Storage class (TRGS 510): 10: Combustible liquids

## 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Ingredients with workplace control parameters

| Component | CAS-No.  | Value  | Control parameters               | Basis   |
|-----------|----------|--|----------------------------------|---|
| Phenol    | 108-95-2 | TWA  | 5 ppm                            | USA. ACGIH Threshold Limit Values (TLV)   |
|           | Remarks  | Not classifiable as a human carcinogen<br>Danger of cutaneous absorption |                                  |   |
|           |          | TWA  | 5 ppm<br>19 mg/m <sup>3</sup>    | USA. NIOSH Recommended Exposure Limits  |
|           |          | Potential for dermal absorption  |                                  |   |
|           |          | C  | 15.6 ppm<br>60 mg/m <sup>3</sup> | USA. NIOSH Recommended Exposure Limits  |
|           |          | Potential for dermal absorption  |                                  |   |
|           |          | TWA  | 5 ppm<br>19 mg/m <sup>3</sup>    | USA. Occupational Exposure Limits (OSHA) - Table Z-1<br>Limits for Air Contaminants     |
|           |          | Skin designation   |                                  |   |
|           |          | PEL  | 5 ppm<br>19 mg/m <sup>3</sup>    | California permissible exposure limits for chemical contaminants (Title 8, Article 107) |
|           |          | Skin   |                                  |   |

#### Biological occupational exposure limits

| Component | CAS-No.  | Parameters   | Value              | Biological specimen | Basis                                     |
|-----------|----------|--|--------------------|---------------------|---|
| Phenol    | 108-95-2 | Phenol   | 250mg/g Creatinine | Urine               | ACGIH - Biological Exposure Indices (BEI) |
|           | Remarks  | End of shift (As soon as possible after exposure ceases) |                    |                     |   |

### 8.2 Exposure controls

#### Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

## Personal protective equipment

### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: butyl-rubber

Minimum layer thickness: 0.7 mm

Break through time: 480 min

Material tested: Butoject® (KCL 898)

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact

Material: Viton®

Minimum layer thickness: 0.7 mm

Break through time: 120 min

Material tested: Vitoject® (KCL 890 / Aldrich Z677698, Size M)

### Body Protection

protective clothing

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

- |  |  |
|--|--|
| a) Appearance                              | Form: oily, liquid<br>Color: colorless     |
| b) Odor                                    | bitter almond-like                         |
| c) Odor Threshold                          | No data available                          |
| d) pH                                      | 6 - 8 at 20 °C (68 °F) - (undiluted)       |
| e) Melting point/freezing point            | Melting point/range: 1 - 2 °C (34 - 36 °F) |
| f) Initial boiling point and boiling range | 197 °C 387 °F                              |

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|   |   |
|---|---|
| g) Flash point                                  | 77 °C (171 °F) - closed cup   |
| h) Evaporation rate                             | No data available   |
| i) Flammability (solid, gas)                    | No data available   |
| j) Upper/lower flammability or explosive limits | No data available   |
| k) Vapor pressure                               | 0.0079 hPa at 25 °C (77 °F) - OECD Test Guideline 104                                       |
| l) Vapor density                                | No data available   |
| m) Relative density                             | 1.166   |
| n) Water solubility                             | 4.9 g/l at 25 °C (77 °F) - OECD Test Guideline 105 - soluble                                |
| o) Partition coefficient: n-octanol/water       | log Pow: 1.66 at 25 °C (77 °F) - OECD Test Guideline 107 - Bioaccumulation is not expected. |
| p) Autoignition temperature                     | No data available   |
| q) Decomposition temperature                    | No data available   |
| r) Viscosity                                    | No data available   |
| s) Explosive properties                         | No data available   |
| t) Oxidizing properties                         | No data available   |

## 9.2 Other safety information

No data available

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Forms explosive mixtures with air on intense heating.  
A range from approx. 15 Kelvin below the flash point is to be rated as critical.

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3 Possibility of hazardous reactions

Violent reactions possible with:  
Strong oxidizing agents  
halogens  
Strong acids and strong bases  
Fluorine

### 10.4 Conditions to avoid

Heat, flames and sparks.  
Strong heating.

### 10.5 Incompatible materials

No data available

### 10.6 Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

Acute toxicity estimate Oral - 476.21 mg/kg  
(Calculation method)  
LD50 Oral - Rat - female - 500 mg/kg  
(OECD Test Guideline 423)  
Acute toxicity estimate Inhalation - 4 h - 51 mg/l  
(Calculation method)  
Acute toxicity estimate Dermal - > 5,000 mg/kg  
(Calculation method)  
Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit  
Result: Moderate skin irritation - 24 h

#### Serious eye damage/eye irritation

Eyes - Rabbit  
Result: No eye irritation  
Remarks: (ECHA)

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Ames test  
Test system: Escherichia coli/Salmonella typhimurium  
Metabolic activation: with and without metabolic activation  
Method: OECD Test Guideline 471  
Result: negative

#### Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available



## 11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Oral - NOAEL (No observed adverse effect level) - 10 mg/kg

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological information

### 12.1 Toxicity

|   |   |
|---|---|
| Toxicity to fish                                    | LC50 - <i>Oryzias latipes</i> (Orange-red killifish) - 1.62 mg/l - 96 h<br>(OECD Test Guideline 203)                    |
| Toxicity to daphnia and other aquatic invertebrates | semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 2.6 mg/l - 48 h<br>(OECD Test Guideline 202)                |
| Toxicity to algae                                   | static test ErC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 4.8 mg/l - 72 h<br>(OECD Test Guideline 201) |

### 12.2 Persistence and degradability

|                  |   |
|------------------|---|
| Biodegradability | aerobic Biochemical oxygen demand - Exposure time 28 d<br>Result: 2 % - Not rapidly biodegradable<br>(OECD Test Guideline 301C) |
|------------------|---|

### 12.3 Bioaccumulative potential

Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected.

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

Discharge into the environment must be avoided.

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

### DOT (US)

NA-Number: 1993 Class: NONE Packing group: III  
Proper shipping name: Combustible liquid, n.o.s. (salicylaldehyde)  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## SECTION 15: Regulatory information

### SARA 302 Components

|        |                     |                             |
|--------|---------------------|-----------------------------|
| Phenol | CAS-No.<br>108-95-2 | Revision Date<br>2007-07-01 |
|--------|---------------------|-----------------------------|

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

|        |                     |                             |
|--------|---------------------|-----------------------------|
| Phenol | CAS-No.<br>108-95-2 | Revision Date<br>2007-07-01 |
|--------|---------------------|-----------------------------|

### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

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## SECTION 16: Other information

### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 6.6

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Print Date: 05/28/2022