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**1. PRODUCT AND COMPANY IDENTIFICATION****1.1 Product identifiers**

Product name : 2-Pyridinecarboxaldehyde

Product Number : P62003  
Brand : Aldrich

CAS-No. : 1121-60-4

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

Identified uses : Laboratory chemicals, Manufacture of substances

**1.3 Details of the supplier of the safety data sheet**Company : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USATelephone : +1 800-325-5832  
Fax : +1 800-325-5052**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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**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  
Acute toxicity, Inhalation (Category 2), H330  
Skin irritation (Category 2), H315  
Serious eye damage (Category 1), H318  
Skin sensitisation (Category 1), H317  
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335  
Acute aquatic toxicity (Category 2), H401

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 : Danger

Hazard statement(s)

H227 : Combustible liquid.  
H302 : Harmful if swallowed.  
H315 : Causes skin irritation.  
H317 : May cause an allergic skin reaction.  
H318 : Causes serious eye damage.  
H330 : Fatal if inhaled.  
H335 : May cause respiratory irritation.  
H401 : Toxic to aquatic life.

|                            |   |
|----------------------------|---|
| Precautionary statement(s) |   |
| P210                       | Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  |
| P260                       | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.   |
| P264                       | Wash skin thoroughly after handling.  |
| P270                       | Do not eat, drink or smoke when using this product.   |
| P271                       | Use only outdoors or in a well-ventilated area.   |
| P272                       | Contaminated work clothing should not be allowed out of the workplace.  |
| P273                       | Avoid release to the environment.   |
| P280                       | Wear protective gloves/ eye protection/ face protection.  |
| P284                       | Wear respiratory protection.  |
| P301 + P312 + P330         | IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.  |
| P302 + P352                | IF ON SKIN: Wash with plenty of soap and water.   |
| P304 + P340 + P310         | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.                                 |
| P305 + P351 + P338 + P310  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician. |
| P333 + P313                | If skin irritation or rash occurs: 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 for extinction.   |
| P403 + P233                | Store in a well-ventilated place. Keep container tightly closed.  |
| 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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1 Substances

Synonyms : Picolinaldehyde  
Pyridine-2-aldehyde

Formula : C<sub>6</sub>H<sub>5</sub>NO  
Molecular weight : 107.11 g/mol  
CAS-No. : 1121-60-4  
EC-No. : 214-333-6

#### Hazardous components

| Component                      | Classification   | Concentration |
|--------------------------------|--|---------------|
| <b>Pyridine-2-carbaldehyde</b> | Flam. Liq. 4; Acute Tox. 4;<br>Acute Tox. 2; Skin Irrit. 2; Eye<br>Dam. 1; Skin Sens. 1; STOT<br>SE 3; Aquatic Acute 2; H227,<br>H302, H315, H317, H318,<br>H330, H335, H401 | <= 100 %      |

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

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

**If swallowed**

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. 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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**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, Nitrogen oxides (NO<sub>x</sub>)

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

Use water spray to cool unopened containers.

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**6. ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures**

Wear respiratory protection. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

**6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

**6.4 Reference to other sections**

For disposal see section 13.

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**7. HANDLING AND STORAGE****7.1 Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C

Store under inert gas.

Storage class (TRGS 510): Non-combustible, acute toxic Cat. 1 and 2 / very toxic hazardous materials

**7.3 Specific end use(s)**

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

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal protective equipment

##### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

##### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

##### Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 120 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

##### Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

##### 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

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

- |  |   |
|--|---|
| a) Appearance                              | Form: clear, liquid<br>Colour: brown      |
| b) Odour                                   | characteristic                            |
| c) Odour Threshold                         | No data available                         |
| d) pH                                      | 6.0 - 7.0 at 111 g/l at 20 °C (68 °F)     |
| e) Melting point/freezing point            | Melting point/range: -20.99 °C (-5.78 °F) |
| f) Initial boiling point and boiling range | 181 °C (358 °F) - lit.                    |
| g) Flash point                             | 77 °C (171 °F)                            |

|    |  |  |
|----|--|--|
| h) | Evaporation rate                             | No data available                        |
| i) | Flammability (solid, gas)                    | No data available                        |
| j) | Upper/lower flammability or explosive limits | No data available                        |
| k) | Vapour pressure                              | 1.2 hPa (0.9 mmHg) at 20 °C (68 °F)      |
| l) | Vapour density                               | No data available                        |
| m) | Relative density                             | 1.126 g/cm <sup>3</sup> at 25 °C (77 °F) |
| n) | Water solubility                             | completely miscible                      |
| o) | Partition coefficient: n-octanol/water       | log Pow: 0.714                           |
| p) | Auto-ignition 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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## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No data available

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Strong oxidizing agents, Strong bases, Acids

### 10.6 Hazardous decomposition products

Other decomposition products - No data available  
In the event of fire: see section 5

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 585 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - 0.8 mg/l  
(OECD Test Guideline 403)

LD50 Dermal - Rat - > 2,000 mg/kg  
(OECD Test Guideline 402)

No data available

**Skin corrosion/irritation**

Skin - Rabbit

Result: Moderate skin irritation

(OECD Test Guideline 404)

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Risk of serious damage to eyes.

(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

Experiments showed mutagenic effects in cultured bacterial cells.

Ames test

S. typhimurium

Result: positive

**Carcinogenicity**

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component 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 identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**

No data available

No data available

**Specific target organ toxicity - single exposure**

Inhalation - May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: Not available

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

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**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 1.3 mg/l - 96 h

NOEC - Oncorhynchus mykiss (rainbow trout) - 1.0 mg/l  
(OECD Test Guideline 203)

Toxicity to daphnia and EC50 - Daphnia (water flea) - 6.9 mg/l - 48 h

other aquatic (OECD Test Guideline 202)  
invertebrates

NOEC - Daphnia magna (Water flea) - 1.8 mg/l  
(OECD Test Guideline 202)

**12.2 Persistence and degradability**

Biodegradability                      Result: 82 % - Biodegradable  
(OECD Test Guideline 301)

**12.3 Bioaccumulative potential**

Bioaccumulation is unlikely.

**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**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.  
Toxic to aquatic life.

No data available

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**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Product**

This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION**

**DOT (US)**

UN number: 2810            Class: 6.1                      Packing group: II  
Proper shipping name: Toxic, liquids, organic, n.o.s. (Pyridine-2-carbaldehyde)  
Reportable Quantity (RQ):

Poison Inhalation Hazard: No

**IMDG**

UN number: 2810            Class: 6.1                      Packing group: II                      EMS-No: F-A, S-A  
Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (Pyridine-2-carbaldehyde)

**IATA**

UN number: 2810            Class: 6.1                      Packing group: II  
Proper shipping name: Toxic liquid, organic, n.o.s. (Pyridine-2-carbaldehyde)

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**15. REGULATORY INFORMATION**

**SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**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.

**Pennsylvania Right To Know Components**

|                         | CAS-No.   | Revision Date |
|-------------------------|-----------|---------------|
| Pyridine-2-carbaldehyde | 1121-60-4 |               |

**New Jersey Right To Know Components**

| CAS-No. | Revision Date |
|---------|---------------|
|---------|---------------|

**California Prop. 65 Components**

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**16. OTHER INFORMATION****Full text of H-Statements referred to under sections 2 and 3.**

|               |                                      |
|---------------|--------------------------------------|
| Acute Tox.    | Acute toxicity                       |
| Aquatic Acute | Acute aquatic toxicity               |
| Eye Dam.      | Serious eye damage                   |
| Flam. Liq.    | Flammable liquids                    |
| H227          | Combustible liquid.                  |
| H302          | Harmful if swallowed.                |
| H315          | Causes skin irritation.              |
| H317          | May cause an allergic skin reaction. |
| H318          | Causes serious eye damage.           |
| H330          | Fatal if inhaled.                    |
| H335          | May cause respiratory irritation.    |
| H401          | Toxic to aquatic life.               |
| Skin Irrit.   | Skin irritation                      |

**HMIS Rating**

|                        |   |
|------------------------|---|
| Health hazard:         | 2 |
| Chronic Health Hazard: | * |
| Flammability:          | 2 |
| Physical Hazard        | 0 |

**NFPA Rating**

|                    |   |
|--------------------|---|
| Health hazard:     | 2 |
| Fire Hazard:       | 2 |
| Reactivity Hazard: | 0 |

**Further information**

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**Preparation Information**

Sigma-Aldrich Corporation  
Product Safety – Americas Region  
1-800-521-8956

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