

SAFETY DATA SHEET

1. PRODUCT

1.1 Product identifiers

Name: 2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde

CAS-No.: 83857-96-9

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

Identified uses : Laboratory chemicals, Manufacture of substances

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)


Skin sensitisation (Category 1), H317

Acute aquatic toxicity (Category 2), H401

Chronic aquatic toxicity (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) | H317 May cause an allergic skin reaction. H411 Toxic to aquatic life with long lasting effects. |
| Precautionary statement(s) | P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. P272 Contaminated work clothing should not be allowed out of the workplace. P273 Avoid release to the environment. P280 Wear protective gloves. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P321 Specific treatment (see supplemental first aid instructions on this label). P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention. P363 Wash contaminated clothing before reuse. P391 Collect spillage. P501 Dispose of contents/ container to an approved waste disposal plant. |

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms: 2-Butyl-4-chloro-5-formylimidazole

Formula: $C_8H_{11}ClN_2O$

CAS-No.: 83857-96-9

EC-No.: 410-260-0

Hazardous components

| Component | Classification | Concentration |
|--|--|---------------|
| 2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde | Skin Sens. 1; Aquatic Acute 2; Aquatic Chronic 2; H317, H411 | 90 -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. Consult a physician. |
| In case of eye contact |
| Flush eyes with water as a precaution. |
| If swallowed |
| 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

4.2 Indication of any immediate medical attention and special treatment needed

no data available

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_x), Hydrogen chloride gas

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Avoid breathing dust.

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

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

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.

7.3 Specific end use(s)

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

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

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

| | |
|-----------------------------------|---|
| Eye/face protection | Face shield and safety glasses 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. |
| 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 | For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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. |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---|--|
| Appearance | Form: solid |
| Odour | no data available |
| Odour Threshold | no data available |
| pH | no data available |
| Melting point/freezing point | Melting point/range: 97 - 100 °C (207 - 212 °F) - lit. |
| Initial boiling point and boiling range | no data available |
| Flash point | no data available |
| Evaporation rate | no data available |
| Flammability (solid, gas) | no data available |

| | |
|--|---|
| Upper/lower flammability or explosive limits | no data available |
| Vapour pressure | no data available |
| Vapour density | no data available |
| Relative density | 1.3 g/cm ³ at 22 °C (72 °F) |
| Water solubility | 1.18 g/l at 20 °C (68 °F) |
| Partition coefficient: n-octanol/water | log Pow: 2.5 at 25 °C (77 °F) |
| Auto-ignition temperature | > 400 °C (> 752 °F) at 1,013 hPa (760 mmHg) |
| Decomposition temperature | no data available |
| Viscosity | no data available |
| Explosive properties | no data available |
| Oxidizing properties | no data available |

9.2 Other safety information

Surface tension: 58.3 mN/m at 20 °C (68 °F)

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

no data available

10.5 Incompatible materials

Oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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|--|
| Acute toxicity |
| LD50 Oral - rat - male and female - > 2,000 mg/kg Inhalation: no data available LD50 Dermal - rat - male and female - > 2,000 mg/kg Remarks: no data available no data available |
| Skin corrosion/irritation |
| Skin - rabbit Result: No skin irritation |
| Serious eye damage/eye irritation |
| Eyes - rabbit Result: No eye irritation |
| Respiratory or skin sensitisation |
| Maximisation Test - guinea pig May cause sensitisation by skin contact. |
| Germ cell mutagenicity |

| |
|---|
| in vitro assay S. typhimurium Result: negative |
| 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 |
| no data available |
| Specific target organ toxicity -repeated exposure |
| no data available |
| Aspiration hazard |
| no data available |
| Additional Information |
| Repeated dose toxicity - rat - male and female - Gavage - No observed adverse effect level - 50 mg/kg RTECS: Not available To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. |

12. ECOLOGICAL INFORMATION

12.1 Toxicity

| | |
|---|---|
| Toxicity to fish | semi-static test LC50 - Danio rerio (zebra fish) - 32.7 mg/l - 96.0 h |
| Toxicity to daphnia and other aquatic invertebrates | EC50 - Daphnia magna (Water flea) - 5.6 mg/l - 48 h |
| Toxicity to algae | No data available |
| Toxicity to bacteria | No data available |

12.2 Persistence and degradability

| | |
|------------------|--|
| Biodegradability | Result: 2 % - Not readily biodegradable. |
|------------------|--|

12.3 Bioaccumulative potential

no data available

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 with long lasting effects.

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

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|--|
| Product |
| Offer surplus and non-recyclable solutions to a licensed disposal company. |
| Contaminated packaging |
| Dispose of as unused product. |

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde)

Marine pollutant: Marine pollutant

IATA

UN number: 3077 Class: 9 Packing group: III

Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde)

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

15. REGULATORY INFORMATION

SARA 302 Components

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

SARA 313 Components

SARA 313: 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

Acute Health Hazard

Massachusetts Right To Know Components

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

Pennsylvania Right To Know Components

| Component | CAS-No. | Revision Date |
|--|------------|---------------|
| 2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde | 83857-96-9 | |

New Jersey Right To Know Components

| Component | CAS-No. | Revision Date |
|--|------------|---------------|
| 2-Butyl-5-chloro-1H-imidazole-4-carboxaldehyde | 83857-96-9 | |

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.

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute Acute aquatic toxicity

Aquatic Chronic Chronic aquatic toxicity

H317 May cause an allergic skin reaction.

H401 Toxic to aquatic life.

H411 Toxic to aquatic life with long lasting effects.

Skin Sens. Skin sensitisation

HMIS Rating

Health hazard: 2

Chronic Health Hazard:

Flammability: 0

Physical Hazard 0

NFPA Rating

Health hazard: 2

Fire Hazard: 0

Reactivity Hazard: 0
