

Classified as hazardous according to criteria of EPA New Zealand

Section 1 - Identification

Product Name 4-(1-Pyrrolidinyl)benzonitrile

CAS-No 10282-30-1

Product Code CC30116DA; CC30116EA; CC30116EB; CC30116FL; CC30116ZZ

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Recommended Use Laboratory chemicals.

Section 2 - Hazard(s) Identification

Classification under Work Safe New Zealand

- 6.1D - Substances that are acutely toxic (Oral)
- 6.1D - Substances that are acutely toxic (Dermal)
- 6.3A - Substances that are irritating to the skin
- 6.4A - Substances that are irritating to the eye
- 6.1D - Substances that are acutely toxic (Inhalation)

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GHS Classification

Physical hazards

Based on available data, the classification criteria are not met

Health hazards

| | |
|--|------------|
| Acute Oral Toxicity | Category 4 |
| Acute Dermal Toxicity | Category 4 |
| Acute Inhalation Toxicity - Dusts and Mists | Category 4 |
| Skin Corrosion/Irritation | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Specific target organ toxicity - (single exposure) | Category 3 |

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

**Signal Word****Warning****Hazard Statements**

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled

Precautionary Statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed 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
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P330 - Rinse mouth
P363 - Wash contaminated clothing before reuse
P403 - Store in a well-ventilated place
P501 - Dispose of contents/ container to an approved waste disposal plant

Other information

No information available

Section 3 - Composition and Information on Ingredients

| Component | CAS-No | Weight % |
|--------------------------------|------------|----------|
| 4-(1-Pyrrolidinyl)benzonitrile | 10282-30-1 | 90-100 |

Section 4 - First Aid Measures

| | |
|---|--|
| Inhalation | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. |
| Ingestion | Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. |
| Skin Contact | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| Eye Contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| General Advice | If symptoms persist, call a physician. |
| Self-Protection of the First Aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. |
| First Aid Facilities | Eyewash, safety shower and washroom. |

Most important symptoms and effects None reasonably foreseeable.

Notes to Physician Treat symptomatically.

Section 5 - Fire Fighting Measures

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. Chemical foam.

Extinguishing media which must not be used for safety reasons

No information available.

Hazardous Combustion Products

Nitrogen oxides (NO_x), Carbon monoxide (CO), Carbon dioxide (CO₂).

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors.

Special protective equipment and precautions for fire fighters

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

Section 6 - Accidental Release Measures

Emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

Section 7 - Handling and Storage

Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Avoid dust formation.

Conditions for Safe Storage, Including any Incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

AS/NZS 2243.10:2004, Safety in laboratories - Storage of chemicals

Section 8 - Exposure Controls and Personal Protection

Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific

regulatory bodies

Engineering Measures

Use only under a chemical fume hood. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Wear safety glasses with side shields (or goggles) (Australian/New Zealand Standard AS/NZS 1337 - Eye protectors for Industrial applications)

Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | AUS/NZ Standard | Glove comments |
|---|--------------------------------------|-----------------|-----------------|-----------------------|
| Nitrile rubber, Neoprene, Natural rubber, PVC. | See manufacturers recommendations | - | AS/NZS 2161 | (minimum requirement) |

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Long sleeved clothing

Respiratory Protection

Use an AS/NZS 1716 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained in line with AS/NZS 1715 on the use and maintenance of respiratory protective devices

Recommended Filter type: Recommended half mask:-

Particulates filter conforming to EN 143 (or AUS/NZ equivalent)
Particle filtering: EN149:2001 (or AUS/NZ equivalent)
When RPE is used a face piece Fit Test should be conducted

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

No information available.

Section 9 - Physical and Chemical Properties

Information on basic physical and chemical properties

| | | |
|----------------------------|--------------------------|-----------------------------------|
| Appearance | No information available | |
| Physical State | Solid | |
| Odor | No information available | |
| Odor Threshold | No data available | |
| pH | No data available | |
| Melting Point/Range | 200 °C / 392 °F | |
| Softening Point | No data available | |
| Boiling Point/Range | 117 °C / 242.6 °F | @ 0.1 mmHg |
| Flash Point | No information available | Method - No information available |
| Evaporation Rate | No data available | |
| Flammability (solid,gas) | No information available | |
| Explosion Limits | No data available | |
| Vapor Pressure | No data available | |
| Vapor Density | No data available | (Air = 1.0) |
| Specific Gravity / Density | No data available | |
| Bulk Density | No data available | |
| Water Solubility | No information available | |

| | |
|---|--------------------------|
| Solubility in other solvents | No information available |
| Partition Coefficient (n-octanol/water) | |
| Autoignition Temperature | No data available |
| Decomposition Temperature | No data available |
| Viscosity | No data available |
| Explosive Properties | No information available |
| Oxidizing Properties | No information available |

Other information

| | |
|-------------------|------------|
| Molecular Formula | C11 H12 N2 |
| Molecular Weight | 172.23 |

Section 10 - Stability and Reactivity

| | |
|------------------------|--|
| Reactivity | None known, based on information available |
| Stability | Stable under normal conditions. |
| Conditions to Avoid | Incompatible products. |
| Incompatible Materials | Strong oxidizing agents, Strong acids, Strong bases. |

Hazardous Decomposition Products Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).

Hazardous Polymerization No information available.

Section 11 - Toxicological Information

Information on Toxicological Effects**Product Information**

| | |
|--|---|
| (a) acute toxicity; | |
| Oral | Category 4 |
| Dermal | Category 4 |
| Inhalation | Category 4 |
| (b) skin corrosion/irritation; | No data available |
| (c) serious eye damage/irritation; | No data available |
| (d) respiratory or skin sensitization; | |
| Respiratory | No data available |
| Skin | No data available |
| (e) germ cell mutagenicity; | No data available |
| (f) carcinogenicity; | No data available |
| | There are no known carcinogenic chemicals in this product |
| (g) reproductive toxicity; | No data available |
| (h) STOT-single exposure; | No data available |

(i) STOT-repeated exposure; No data available
Target Organs No information available.

(j) aspiration hazard; Not applicable
Solid

Symptoms / effects, both acute and delayed No information available

Section 12 - Ecological Information

Ecotoxicity effects Do not empty into drains.

Persistence and Degradability No information available

Bioaccumulative Potential No information available

Mobility No information available.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors
Persistent Organic Pollutant This product does not contain any known or suspected substance
Ozone Depletion Potential This product does not contain any known or suspected substance

Section 13 - Disposal Considerations

Waste from Residues/Unused Products Do not allow into drains or watercourses or dispose of where ground or surface waters may be affected. Wastes, including emptied containers, are controlled wastes and should be disposed of in accordance with all federal, E.P.A., state and local regulations. Assure conformity with all applicable regulations.

Contaminated Packaging Dispose of this container to hazardous or special waste collection point.

Other Information Disposal agencies or waste contractors must comply with the New Zealand Hazardous Substances (Disposal) Regulations. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

Section 14 - Transport Information

IMDG/IMO Not regulated

NZS 5433:2012 Not regulated

IATA Not regulated

Environmental hazards No hazards identified

Special Precautions No special precautions required

Additional information None known

Section 15 - Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

X = listed

Prohibition or notification/licensing requirements Shown below are details of specific prohibition/notifications or licencing requirements when they apply.

Section 16 - Other Information

This safety data sheet complies with the requirements of WorkSafe New Zealand Regulations

Legend

| | |
|--|--|
| AICS - Australian Inventory of Chemical Substances | NZIoC - New Zealand Inventory of Chemicals |
| TSCA - United States Toxic Substances Control Act Section 8(b) Inventory | EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances |
| DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List | ENCS - Japanese Existing and New Chemical Substances |
| IECSC - Chinese Inventory of Existing Chemical Substances | KECL - Korean Existing and Evaluated Chemical Substances |
| PICCS - Philippines Inventory of Chemicals and Chemical Substances | CAS - Chemical Abstracts Service |
| TWA - Time Weighted Average | ACGIH - American Conference of Governmental Industrial Hygienists Predicted No Effect Concentration (PNEC) |
| IARC - International Agency for Research on Cancer | IMO/MDG - International Maritime Organization/International Maritime Dangerous Goods Code |
| ICAO/IATA - International Civil Aviation Organization/International Air Transport Association | ADG Australian Code for the Transport of Dangerous Goods by Road and Rail |
| MARPOL - International Convention for the Prevention of Pollution from Ships | OECD - Organisation for Economic Co-operation and Development |
| NZS 5433:2012 - Transport of Dangerous Goods on Land | LC50 - Lethal Concentration 50% |
| LD50 - Lethal Dose 50% | ATE - Acute Toxicity Estimate |
| EC50 - Effective Concentration 50% | RPE - Respiratory Protective Equipment |
| WEL - Workplace Exposure Limit | NOEC - No Observed Effect Concentration |
| DNEL - Derived No Effect Level | BCF - Bioconcentration factor |
| POW - Partition coefficient Octanol:Water | PBT - Persistent, Bioaccumulative, Toxic |
| vPvB - very Persistent, very Bioaccumulative | |
| VOC (volatile organic compound) | |

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Revision Date

11-Aug-2020

Revision Summary

Initial Release

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 Safety Data Sheet