

SAFETY DATA SHEET

Version: v1
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SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifiers

Product name : 1-Chloro-2,4-dinitrobenzene(CDNB)
Product Number : C469916
Brand : aladdin
CAS-No. : 97-00-7

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Company

Company : ALADDIN SCIENTIFIC CORPORATION
Address : 14078 Meridian Parkway,
Riverside, CA. 92518
Telephone : +1 (833) 552-7181
Fax : no data available

1.4 Emergency telephone number

CHEMTREC®, Inside the USA : 1-800-424-9300
CHEMTREC®, Outside the USA :

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 2), H310
Skin corrosion/irritation (Category 2), H315
Serious eye damage/eye irritation (Category 1), H318
Skin sensitization (Category 1), H317
Germ cell mutagenicity (Category 2), H341
Specific target organ toxicity - single exposure (Category 1), H370
Specific target organ toxicity - single exposure (Category 3), respiratory tract irritation, H335

Specific target organ toxicity - repeated exposure (Category 1), H372

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

| | |
|-----------------------------------|--|
| Pictogram |  |
| Signal word | Danger |
| Hazard statement(s) | |
| H270 | May cause or intensify fire; oxidizer |
| H302 | Harmful if swallowed |
| H310 | Fatal in contact with skin |
| H315 | Causes skin irritation |
| H317 | May cause an allergic skin reaction |
| H318 | Causes serious eye damage |
| H335 | May cause respiratory irritation |
| H341 | Suspected of causing genetic defects |
| H372 | Causes damage to organs through prolonged or repeated exposure |
| H410 | Very 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. |
| P260 | Do not breathe dust/fume/gas/mist/vapors/spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P264 | Wash hands [and ...] 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/protective clothing/eye protection/face protection. |
| P391 | Collect spillage. |
| P302+P352 | IF ON SKIN: wash with plenty of 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+P311 | IF exposed or concerned: Call a POISON CENTER/doctor/... |
| P333+P313 | IF SKIN irritation or rash occurs: Get medical advice/attention. |
| P361+P364 | Take off immediately all contaminated clothing and wash it before reuse. |
| P405 | Store locked up. |

| | |
|----------------|--|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P301+P312+P330 | IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. |
| P304+P340+P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor. if you feel unwell. |

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

SECTION 3: Composition/information on ingredients

3.1 Substances

| | |
|------------------|--|
| Synonyms | : CDNB, DNCB, 2,4-Dinitrochlorobenzene |
| Formula | : C6H3ClN2O4 |
| Molecular weight | : 202.55 |
| CAS No. | : 97-00-7 |
| EC-NO. | : 202-551-4 |

| Component | Classification | Concentration |
|--|---|---------------|
| 1-Chloro-2,4-dinitrobenzene(CDNB) | Acute toxicity Category 4; Acute toxicity Category 2; Skin corrosion/irritation Category 2; Serious eye damage/eye irritation Category 1; Skin sensitization Category 1; Germ cell mutagenicity Category 2; Specific target organ toxicity - single exposure Category 1; Specific target organ toxicity - single exposure Category 3; Specific target organ toxicity - repeated exposure Category 1; Short-term (acute) aquatic hazard Category 1; Longterm (chronic) aquatic hazard Category 1; H302, H310, H315, H318, H317, H341, H370, H335, H372, H400, H410 M-Factor - Aquatic Acute: 10 - Aquatic Chronic: 1 | ≥97% |

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

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the

chemical.

In case of skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

In case of eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

If swallowed

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

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

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

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

Unsuitable extinguishing media

no data available

5.2 Special hazards arising from the substance or mixture

no data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

no data available

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

6.2 Environmental precautions

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

6.3 Methods and materials for containment and cleaning up

Collect and arrange disposal. Keep the chemical in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Operators should be specially trained and strictly abide by the operating procedures. Operation and disposal should be carried out in a place with local ventilation or general ventilation facilities. Avoid eye and skin contact and avoid breathing vapor. See Section 8 for personal protective measures. Keep away from fire and heat sources, and smoking is strictly prohibited in the workplace. Use explosion-proof ventilation systems and equipment. If canning is required, the flow rate should be controlled, and there should be a grounding device to prevent the accumulation of static electricity. Avoid contact with incompatible substances such as oxidizing agents (see section 10 for incompatible substances). When handling, it should be lightly loaded and unloaded to prevent damage to packaging and containers. Empty containers may be harmful residues. Wash hands after use and prohibit eating or drinking in the workplace. Equipped with the corresponding variety and quantity of fire fighting equipment and leakage emer

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool and ventilated warehouse.

7.3 Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

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 EN166(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. The selected protective gloves have to satisfy the specifications of Regulation (EU)2016/425 and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., 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 fullface particle respirator type N100 (US) or type P3 (EN 143) 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

If safety requires, prevent further leakage or spillage. Do not let the product enter the sewer.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

| | |
|---|-------------------|
| a) Appearance | no data available |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/freezing point | 48-50°C |
| f) Initial boiling point and boiling range | 315°C |
| g) Flash point | 194.4°C |
| 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 | no data available |
| l) Vapour density | no data available |

| | |
|---|--|
| m) Relative density | no data available |
| n) Water solubility | Alcohol: extremely slightly soluble (cold) (lit.); Benzene: soluble (liters); Carbon disulfide: soluble (liters); Ether: soluble (liters); Water: insoluble (almost) (liters) |
| o) Partition coefficient: n-octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties N | no data available |
| t) Oxidizing properties N | no data available |

9.2 Other safety information

no data available

SECTION 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

Violent reactions possible with: Alkali metals Alcohols nitrogen oxides organic nitro compounds chlorates Nitric acid
Water Organic Substances aluminium halides phenols Hydrazine hydrate combustible substances Risk of explosion
with: Ammonia Reducing agents

10.4 Conditions to avoid

Strong heating.

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

Carbon dioxide, carbon monoxide, nitrogen oxides (NO_x), hydrogen chloride

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - male - 939 mg/kg

(OECD Test Guideline 401)

Inhalation: No data available

LD50 Dermal - Rabbit - 130 mg/kg

(OECD Test Guideline 402)

Remarks: (RTECS)

Skin corrosion/irritation

Skin - Rabbit Result: Severe skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit Result: Severe eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation

Buehler Test - Guinea pig Result: May cause sensitization by skin contact. (OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Ames test Test system: TA98 Metabolic activation: with and without metabolic activation Method:

OECD Test Guideline 471 Result: positive

Carcinogenicity

no data available

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

Additional Information

RTECS: CZ0525000

Cough, Shortness of breath, Headache, Nausea, Vomiting

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

After absorption: Nausea Vomiting Headache Drowsiness Shortness of breath Circulatory collapse
Unconsciousness Convulsions Methaemoglobin formation after intensive contact with skin cannot be excluded.

The following applies to aromatic nitro compounds in general: systemic effect: methaemoglobinaemia with headache, cardiac dysrhythmias, drop in blood pressure, dyspnoea, and spasms; principal sign: cyanosis (blue discolouration of the blood).

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish static test LC50 - Danio rerio (zebra fish) - 0.71 mg/l - 96 h
(OECD Test Guideline 203)

LC50 - Danio rerio (zebra fish) - 0.32 mg/l - 96.0 h

Toxicity to daphnia and other aquatic invertebrates

static test EC50 - Daphnia magna (Water flea) - 0.49 mg/l - 48 h
(ISO 6341)

Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - 0.151mg/l - 72 h
(OECD Test Guideline 201)

Toxicity to fish(Chronic toxicity)

flow-through test NOEC - Danio rerio (zebra fish) - 0.05 mg/l - 28 d
(OECD Test Guideline 204)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)
semi-static test NOEC - Daphnia magna (Water flea) - 0.1 mg/l - 21d
(OECD Test Guideline 202)

12.2 Persistence and degradability

Biodegradability aerobic - Exposure time 28 d Result: < 20 % - Not readily biodegradable. (OECD Test Guideline 301B)

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

no data available

12.6 Other adverse effects

no data available

SECTION 13:

13.1 Disposal considerations

Product

Recycle to process, if possible. Consult your local regional authorities and an expert of disposal. You may be able to dissolve or mix material with a combustible solvent and little by little burn in a chemical incinerator equipped with an afterburner and scrubber system. If a large amount of the substance is burned at a time, an explosion may occur. Observe all federal, state and local regulations when disposing of the substance.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transport information

DOT (US)

| | | |
|---|--|---|
| UN number: 3441 | Packing group: II | Class: 6.1 |
| Proper shipping name: CHLORODINITROBENZENES, SOLID | Reportable Quantity(RQ):no data available | Poison Inhalation Hazard:no data available |
| Environmental Hazards: yes | | |

IMDG

| | | |
|--|-------------------|--------------------------|
| UN number: 3441 | Packing group: II | EMS-No:no data available |
| Proper shipping name: CHLORODINITROBENZENES, SOLID | | |

IATA

| | | |
|--|-------------------|------------|
| UN number: 3441 | Packing group: II | Class: 6.1 |
| Proper shipping name: CHLORODINITROBENZENES, SOLID | | |

SECTION 15: Regulatory information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

SECTION 16: Other information

| | |
|------------------|--|
| Prepared By | Regulatory Affairs ALADDIN SCIENTIFIC CORPORATION Email: QualityAssurance@aladdinsci.com |
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