

Safety Data Sheet NINHYDRIN

SDS no. S9PRX8QY • Version 1.0 • Date of issue: 2024-06-19

SECTION 1: Identification

GHS Product identifier

Product name NINHYDRIN

Other means of identification

| | |
|--------------------------------------|--------------|
| Name | Product Code |
| NINHYDRIN AR | NA021 |
| 2,2-Dihydroxy-1,3-indanedione, | |
| 1,2,3-Indanetrione hydrate, | |
| 1,2,3-Triketohydrindene monohydrate, | |
| 2,2-Dihydroxyhydrindene-1,3-dione | |

Recommended use of the chemical and restrictions on use

Chemical intermediate; reagent for determination of amines, peptines, amino acids, amino sugars and ascorbic acid and laboratory reagent.

Supplier's details

| | |
|-----------|---|
| Name | ChemSupply Australia Pty Ltd |
| Address | 38-50 Bedford Street 5013 Gillman South Australia Australia |
| Telephone | 08 8440 2000 |
| email | www.chemsupply.com.au |

Emergency phone number

CHEMCALL 1800 127 406 (Australia) / +64-4-917-9888 (International)

SECTION 2: Hazard identification

Classification of the substance or mixture

GHS classification in accordance with: UN GHS revision 7

- Acute toxicity, oral, Cat. 4
- Serious eye damage/eye irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Specific target organ toxicity following single exposure, Cat. 3

GHS label elements, including precautionary statements

Pictograms



Signal word

Warning

Hazard statement(s)

| | |
|------|----------------------------------|
| H302 | Harmful if swallowed |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H335 | May cause respiratory irritation |

Precautionary statement(s)

| | |
|----------------|--|
| P261 | Avoid breathing dust/fume/gas/mist/vapors/spray. |
| P264 | Wash hands 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. |
| P301+P312 | IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell, |
| P302+P352 | IF ON SKIN: Wash with plenty of water/soap |
| P304+P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P312 | Call a POISON CENTER/doctor/physician if you feel unwell. |
| P332+P313 | If skin irritation occurs: Get medical advice/attention. |
| P337+P313 | If eye irritation persists: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| P501 | Dispose of contents/container to an approved waste disposal facility |

SECTION 3: Composition/information on ingredients

Mixtures

Molecular weight: 178.14

Components

| Component | CAS no. | Concentration |
|---|----------|----------------|
| NINHYDRIN (EC no.: 207-618-1) | 485-47-2 | 100 % (weight) |
| CLASSIFICATIONS: Acute toxicity, oral, Cat. 4; Serious eye damage/eye irritation, Cat. 2A; Skin corrosion/irritation, Cat. 2; Specific target organ toxicity following single exposure, Cat. 3. HAZARDS: H302 - Harmful if swallowed; H315 - Causes skin irritation; H319 - Causes serious eye irritation; H335 - May cause respiratory irritation; H336 - May cause drowsiness or dizziness. | | |

SECTION 4: First-aid measures

Description of necessary first-aid measures

General advice

First Aid Facilities: Maintain eyewash fountain in work area.

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor (at once).

| | |
|-------------------------|--|
| If inhaled | If inhaled, remove from contaminated area to fresh air immediately. Apply artificial respiration if not breathing. If breathing is difficult, give oxygen. Immediately obtain medical aid if cough or other symptoms appear. |
| In case of skin contact | Remove contaminated clothing and wash affected skin with soap and water. Seek medical advice if effects persist. |
| In case of eye contact | If contact with the eye(s) occurs, wash with copious amounts of water for approximately 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. If persistent irritation occurs, obtain medical attention. |
| If swallowed | Rinse mouth thoroughly with water immediately, repeat until all traces of product have been removed. DO NOT INDUCE VOMITING. Seek medical advice if effects persist. |

Most important symptoms/effects, acute and delayed

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

Indication of immediate medical attention and special treatment needed, if necessary

For advice, contact the National Poisons Information Centre (Phone Australia 13 11 26; New Zealand 0800 764 766) or a doctor.

SECTION 5: Fire-fighting measures

Suitable extinguishing media

Small fire: Use dry chemical, CO₂, water spray or foam.

Large fire: Use water spray, fog or foam.

If safe to do so, move undamaged containers from the fire area. Cool containers with flooding quantities of water until well after the fire is out.

Specific hazards arising from the chemical

Hazards from Combustion Products: Oxides of carbon.

May burn but do not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Fire or heat may produce irritating, poisonous and/or corrosive gases.

Special protective actions for fire-fighters

Wear SCBA and structural firefighter's uniform.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid inhalation and ingestion. Avoid contact with skin, eyes and clothing.

Wear protective clothing specified for normal operations (see Section 8)

Methods and materials for containment and cleaning up

Sweep up (avoid generating dust) and remove to a suitable, clearly labelled container for disposal in accordance with local regulations.

Seek expert advice on handling and disposal.

Use appropriate containment to avoid environmental contamination.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid generation or accumulation of dusts. Avoid prolonged or repeated contact with skin and eyes. Use in well ventilated areas away from all ignition sources. In case of insufficient ventilation, wear suitable respiratory equipment. Wash hands and face thoroughly after working with material.

Conditions for safe storage, including any incompatibilities

Store away from sources of heat or ignition. Store away from oxidizing agents. Store in a cool, dry place. Keep containers securely sealed and protected against physical damage.

SECTION 8: Exposure controls/personal protection

Appropriate engineering controls

In industrial situations maintain the concentrations values below the TWA. This may be achieved by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods.

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

The use of a face shield, chemical goggles or safety glasses with side shield protection as appropriate. Must comply with Australian Standards AS 1337 and be selected and used in accordance with AS 1336.

Skin protection

Clean impervious clothing should be worn. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Hand Protection: Ensure hand protection complies with AS 2161, Occupational protective gloves - Selection, use and maintenance.

Body protection

Clean clothing or protective clothing should be worn, preferably with an apron. Clothing for protection against chemicals should comply with AS 3765 Clothing for Protection Against Hazardous Chemicals.

Respiratory protection

Where ventilation is not adequate, respiratory protection may be required. Avoid breathing dust, vapours or mists. Respiratory protection should comply with AS 1716 - Respiratory Protective Devices and be selected in accordance with AS 1715 - Selection, Use and Maintenance of Respiratory Protective Devices. Filter capacity and respirator type depends on exposure levels. In event of emergency or planned entry into unknown concentrations a positive pressure, full-facepiece SCBA should be used. If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

| | |
|--|--|
| Physical state | Solid |
| Appearance | White to brownish-white or faintly yellow crystals or powder. May discolour on exposure to light. |
| Color | No data available. |
| Odor | Characteristic. |
| Odor threshold | No data available. |
| Melting point/freezing point | 250 - 258 °C (decomposes) |
| Boiling point or initial boiling point and boiling range | No data available. |

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| Flammability | No data available. |
| Lower and upper explosion limit/flammability limit | No data available. |
| Flash point | No data available. |
| Explosive properties | No data available. |
| Auto-ignition temperature | No data available. |
| Decomposition temperature | No data available. |
| Oxidizing properties | No data available. |
| pH | 4.6 -5.0 (10 g/l, H2O, 20 °C) |
| Kinematic viscosity | No data available. |
| Solubility | Solubility in Water: Slightly soluble (20 g/L @ 20 °C) Solubility in Organic Solvents: Soluble in alcohol. Slightly soluble in ether and chloroform. |
| Partition coefficient n-octanol/water (log value) | No data available. |
| Vapor pressure | No data available. |
| Evaporation rate | No data available. |
| Density and/or relative density | No data available. |
| Relative vapor density | 6.16 (air=1) |
| Particle characteristics | No data available. |

Supplemental information regarding physical hazard classes

No data available.

Further safety characteristics (supplemental)

Other Information: When heated above 150 °C becomes purple and melts with decomposition at approximately 250 °C.

SECTION 10: Stability and reactivity

Reactivity

Stable under normal conditions of storage and handling.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous Polymerization: Will not occur.

Conditions to avoid

Dust generation. High temperatures. Light. Incompatibles.

Incompatible materials

Strong oxidizing agents, strong acids.

Hazardous decomposition products

Oxides of carbon.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

Ingestion: Harmful if swallowed. Causes irritation to the gastrointestinal tract. Symptoms may be nausea, vomiting and diarrhea.

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Inhalation: May be harmful if inhaled. Irritating to respiratory system. May cause coughing, shortness of breath.

Skin corrosion/irritation

Irritating to skin. May be harmful if absorbed through skin. Discolours the skin (rubefacient). May cause skin rash.

Serious eye damage/irritation

Causes irritation to eyes, redness and pain. May cause burns.

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available.

Carcinogenicity

No data available.

Reproductive toxicity

No data available.

Summary of evaluation of the CMR properties

No data available.

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Specific target organ toxicity (STOT) - repeated exposure

No data available.

Aspiration hazard

No data available.

Additional information

Chronic Effects: Repeated skin or eye contact with solid or solution may cause burns.

NINHYDRIN: *TOXICITY:

typ. dose mode specie amount unit other

LDLo orl rat 250 mg/kg

LD50 ipr mus 78 mg/kg

*AQTX/TLM96: Not available

*SAX TOXICITY EVALUATION:

THR: HIGH via oral route.

*CARCINOGENICITY: Not available

*MUTATION DATA: Not available

*TERATOGENICITY: Not available

*STANDARDS, REGULATIONS & RECOMMENDATIONS:

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OSHA: None
ACGIH: None
NIOSH Criteria Document: None
NFPA Hazard Rating: Health (H): None
Flammability (F): None
Reactivity (R): None

*OTHER TOXICITY DATA:
Status: Reported in EPA TSCA Inventory, 1983

SECTION 12: Ecological information

SECTION 13: Disposal considerations

Disposal methods

Product disposal

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers.

Other disposal recommendations

Do not discharge this material into waterways, drains and sewers.

SECTION 14: Transport information

ADG (Road and Rail)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question

Australia SUSMP

Poison Schedule: NS

SECTION 16: Other information

Further information/disclaimer

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Preparation information

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Standard for the Uniform Scheduling of Medicines and Poisons, Commonwealth of Australia

National Road Transport Commission, 'Australian Code for the Transport of Dangerous Goods by Road and Rail 7th. Ed.'

Safe Work Australia, 'National Code of Practice for the Preparation of Safety Data Sheets for Hazardous Chemicals', July 2020.

Safe Work Australia, 'National Guide for Classifying Hazardous Chemicals', July 2020.

Safe Work Australia, Workplace Exposure Standards for Airborne Contaminants, December 2019

Safe Work Australia, Hazardous Chemical Information System (HCIS), hcis.safeworkaustralia.gov.au

IATA, Dangerous Goods Regulations (DGR)

IMO, International Maritime Dangerous Goods Code (IMDG)