



ISO 9001 Quality System Certified Organization

MANUFACTURER & EXPORTER OF LABORATORY CHEMICALS AND OILS

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MATERIAL SAFETY DATA SHEET (MSDS) SDS/MSDS

NINHYDRIN

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

1.1. Product identifier

Product form : Substance

Trade name : NINHYDRIN

EC-No. : 213-340-1

CAS-No. : 485-47-2

Formula : C₉H₆O₄

Chemical structure

Synonyms

: 1,2,3-Indantrione, 2,2-Dihydroxy-1,3-indanedione, Trioxohydrindene

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

Relevant identified uses

Use of the substance/mixture

: Laboratory chemicals, Manufacture of substances

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity (oral), Category 4

Skin corrosion/irritation, Category 2

Serious eye damage/eye irritation, Category 2

Specific target organ toxicity – Single exposure, Category 3,

Respiratory tract irritation

Full text of H- and EUH-statements: see section 16

H302

H315

H319

H335

Adverse physicochemical, human health and environmental effects

Harmful if swallowed. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)

Signal word (CLP)

Hazard statements (CLP)

Precautionary statements (CLP)

2.3. Other hazards

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:
GHS07
: Warning
: H302 - Harmful if swallowed.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H335 - May cause respiratory irritation.
: P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 - Wash hands and forearms thoroughly after handling.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
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.
Contains no PBT and/or vPvB substances $\geq 0.1\%$ assessed in accordance with REACH Annex XIII

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance type

Name

: Mono-constituent

NINHYDRIN

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general

First-aid measures after inhalation

First-aid measures after skin contact

First-aid measures after eye contact

First-aid measures after ingestion

Product identifier

%

CAS-No.: 485-47-2

EC-No.: 213-340-1

99

: Call a poison center or a doctor if you feel unwell.

: Remove person to fresh air and keep comfortable for breathing. Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.

: Wash with plenty of water/.... Wash contaminated clothing before reuse. If skin irritation occurs: Get medical advice/attention. Specific treatment (see supplemental first aid instruction on this label). Wash skin with plenty of water. Take off contaminated clothing. If

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skin irritation occurs: Get medical advice/attention.

: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If eye irritation persists: Get medical advice/attention.

: Rinse mouth. Call a POISON CENTER/doctor if you feel unwell. Call a poison center or a doctor if you feel unwell.

First-aid measures for first aider

: First aid workers will be equipped with suitable personal protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects after inhalation

Symptoms/effects after skin contact

: May cause respiratory irritation.

: Causes skin irritation. Irritation.

Symptoms/effects after eye contact

Symptoms/effects after ingestion

: Causes serious eye irritation. Eye irritation.

: Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Unsuitable extinguishing media

: dry chemical powder, alcohol-resistant foam, carbon dioxide (CO₂). Water spray. Dry powder. Foam.

: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard

Explosion hazard

Hazardous decomposition products in case of fire

5.3. Advice for firefighters

: No fire hazard.

: No direct explosion hazard.

: Toxic fumes may be released.

Firefighting instructions

Protection during firefighting

: Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection.

: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.



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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures

For non-emergency personnel

Protective equipment

Emergency procedures

For emergency responders

Protective equipment

Emergency procedures

6.2. Environmental precautions

: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

: Wear recommended personal protective equipment.

: Ventilate spillage area. Evacuate unnecessary personnel. Avoid breathing dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

: Do not attempt to take action without suitable protective equipment. Use personal protective equipment as required. For further information refer to section 8: "Exposure controls/personal protection".

: Ventilate area. Evacuate unnecessary personnel.

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment

Methods for cleaning up

Other information

6.4. Reference to other sections

: Using a clean shovel, put the material in a dry container and cover without compressing it.

: Mechanically recover the product. Clean up immediately by sweeping or vacuum.

: Dispose of materials or solid residues at an authorized site.

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed

Precautions for safe handling

Hygiene measures

: Not expected to present a significant hazard under anticipated conditions of normal use.

: Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Avoid contact with skin and eyes. Wear personal protective equipment.

: Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling. Wash contaminated clothing before reuse. Always wash hands after handling the product.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures

Storage conditions

Packaging materials

7.3. Specific end use(s)

: Keep in a cool, well-ventilated place away from heat.

: Keep container tightly closed. Store in original container. Store in a dry place. Store locked up. Store in a well-ventilated place.

: Store always product in container of same material as original container.

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protection equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Personal protective equipment symbol(s):

Eye and face protection

Eye protection:

Chemical goggles or safety glasses

Skin protection

Skin and body protection:

Wear a mask

Hand protection:

Protective gloves

Respiratory protection

Respiratory protection:

Wear appropriate mask

Environmental exposure controls

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Colour : White to pale yellow.

Appearance : Crystalline powder.

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Molecular mass : 178.14 g/mol

Odour : Odourless.

Odour threshold : Not available

Melting point : 250 °C (Decomposes)

Freezing point : Not applicable

Boiling point : Not available

Flammability : Non flammable.

Lower explosion limit : Not applicable

Upper explosion limit : Not applicable

Flash point : Not applicable

Auto-ignition temperature : Not applicable

Decomposition temperature : \approx 250 °C

pH : 4.6 – 5

pH solution concentration : 1 %

Viscosity, kinematic : Not applicable

Solubility : Water: 20 g/l - Soluble in water

Partition coefficient n-octanol/water (Log Kow) : Not available

Vapour pressure : Not available

Vapour pressure at 50°C : Not available

Density : 0.86 g/cm³

Relative density : Not available

Relative vapour density at 20°C : 6.16

Particle size : Not available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Direct sunlight. Air contact. Moisture.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.



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SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

Skin corrosion/irritation : Causes skin irritation.

pH: 4.6 – 5

Serious eye damage/irritation : Causes serious eye irritation.

pH: 4.6 – 5

Respiratory or skin sensitisation : Not classified



Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

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Viscosity, kinematic Not applicable

11.2. Information on other hazards

Other information

Potential adverse human health effects and symptoms

: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Hazardous to the aquatic environment, short-term

(acute)



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: Not classified

Hazardous to the aquatic environment, long-term (chronic)

: Not classified

12.2. Persistence and degradability

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Persistence and degradability Rapidly degradable

12.3. Bioaccumulative potential

No additional information available

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional waste regulation : Disposal must be done according to official regulations.

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Sewage disposal recommendations : Disposal must be done according to official regulations.

Product/Packaging disposal recommendations : Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation. Disposal must be done according to official regulations.

Additional information : Do not re-use empty containers.

SECTION 14: Transport information

In accordance with ADR / IMDG / IATA / ADN / RID

14.1. UN number or ID number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (ADR) : Not regulated

Proper Shipping Name (IMDG) : Not regulated

Proper Shipping Name (IATA) : Not regulated

Proper Shipping Name (ADN) : Not regulated

Proper Shipping Name (RID) : Not regulated

14.3. Transport hazard class(es)

ADR

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Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR) : Not regulated

Packing group (IMDG) : Not regulated

Packing group (IATA) : Not regulated

Packing group (ADN) : Not regulated

Packing group (RID) : Not regulated

14.5. Environmental hazards

Other information : No supplementary information available

14.6. Special precautions for user

Overland transport

Not regulated

Transport by sea

Not regulated

NINHYDRIN AR/ACS

Safety Data Sheet

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878

Air transport

Not regulated

Inland waterway transport

Not regulated

Rail transport

Not regulated

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

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EU-Regulations

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Contains no substance(s) listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Not listed on the PIC list (Regulation EU 649/2012)

POP Regulation (Persistent Organic Pollutants)

Not listed on the POP list (Regulation EU 2019/1021)

Ozone Regulation (2024/590)

Not listed on the Ozone Depletion list (Regulation EU 2024/590)

Dual-Use Regulation (428/2009)

Contains no substance subject to the COUNCIL REGULATION (EC) No 428/2009 of 5 May 2009 setting up a Community regime for the control of exports, transfer, brokering and transit of dual-use items.

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

National regulations

France

Occupational diseases

Code

Description

RG 66

Germany

Occupational rhinitis and asthma

VOC ordinance (ChemVOCFarbV)

Water hazard class (WGK)

Hazardous Incident Ordinance (12. BImSchV)

Netherlands

SZW-lijst van kankerverwekkende stoffen

:

: WGK 3, Highly hazardous to water (Classification according to AwSV).

: Is not subject to the Hazardous Incident Ordinance (12. BImSchV)

: The substance is not listed

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SZW-lijst van mutagene stoffen : The substance is not listed

SZW-lijst van reprotoxische stoffen – Borstvoeding : The substance is not listed

SZW-lijst van reprotoxische stoffen –

Vruchtbaarheid

: The substance is not listed

SZW-lijst van reprotoxische stoffen – Ontwikkeling : The substance is not listed

Denmark

Danish National Regulations : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH American Conference of Government Industrial Hygienists

ADN European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ADR European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE Acute Toxicity Estimate

BCF Bioconcentration factor

BLV Biological limit value

BOD Biochemical oxygen demand (BOD)

CAS-No. Chemical Abstract Service number

CLP Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008

COD Chemical oxygen demand (COD)

CSA Chemical safety assessment

DMEL Derived Minimal Effect level

DNEL Derived-No Effect Level

EC-No. European Community number

EC50 Median effective concentration

ED Endocrine disruptor

EN European Standard

EWC European waste catalogue

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IMDG International Maritime Dangerous Goods

LC50 Median lethal concentration

LD50 Median lethal dose

LOAEL Lowest Observed Adverse Effect Level

Log Kow Partition coefficient n-octanol/water (Log Kow)

Log Pow Partition coefficient n-octanol/water (Log Pow)

MAK maximum workplace concentration

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NOAEC No-Observed Adverse Effect Concentration

NOAEL No-Observed Adverse Effect Level

Abbreviations and acronyms:

NOEC No-Observed Effect Concentration

N.O.S. Not Otherwise Specified

OECD Organisation for Economic Co-operation and Development

OEL Occupational Exposure Limit

OSHA Occupational Safety & Health Administration

PBT Persistent Bioaccumulative Toxic

PNEC Predicted No-Effect Concentration

PPE Personal protection equipment

RID Regulations concerning the International Carriage of Dangerous Goods by Rail

SDS Safety Data Sheet

STP Sewage treatment plant

TF Technical function

ThOD Theoretical oxygen demand (ThOD)

TLM Median Tolerance Limit

TWA Time Weighted Average

VOC Volatile Organic Compounds

vPvB Very Persistent and Very Bioaccumulative

UFI Unique Formula Identifier

Full text of H- and EUH-statements:

Acute Tox. 4 (Oral) Acute toxicity (oral), Category 4

Eye Irrit. 2 Serious eye damage/eye irritation, Category 2

Skin Irrit. 2 Skin corrosion/irritation, Category 2

STOT SE 3 Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation

H302 Harmful if swallowed.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

Safety Data Sheet (SDS), EU

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.