



Ninhydrin Powder MSDS

Effective Date: August 29, 2013

24 Hour Emergency Contact:

ChemTel: (800)255-3924

www.pioneerforensics.com

1. PRODUCT AND COMPANY IDENTIFICATION

Product: Ninhydrin, Monohydrate Powder
Product Number(s): PF035
CAS#: 485-47-2
Synonyms: Trioxohydrindene; Triketohydrindene Hydrate
Manufacturer: Pioneer Forensics, LLC
804 E. Eisenhower Blvd.
Loveland, CO 80537
Ph: (970) 292-8487
Emergency Number: (800) 255-3924 (CHEM-TEL)
Customer Service: (970) 292-8487

2. HAZARDS IDENTIFICATION

Emergency Overview: HARMFUL IF SWALLOWED, INHALED, EXPOSED TO THE EYES, OR ABSORBED THROUGH THE SKIN.

Safety Ratings: Health: 2, Moderate Reactivity: 0, None
Flammability: 1, Slight Contact: 2, Moderate

OSHA Regulatory Status: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Potential Acute Health Effects:

Routes of Exposure: Inhalation, ingestion, skin contact, eye contact

Inhalation: Causes irritation to the respiratory tract.

Ingestion: Causes irritation to the gastrointestinal tract.

Skin Contact: Causes skin irritation. May cause skin discoloration. May be absorbed through the skin.

Eye Contact: Causes eye irritation.

Target Organs: Skin, eyes, gastrointestinal tract, lungs

Chronic Health Effects: Prolonged or repeated exposure may cause an allergic reaction.

Potential Environmental Effects: No information found

3. COMPOSITION AND INFORMATION ON INGREDIENTS

| <u>Components</u> | <u>CAS#</u> | <u>Chemical Formula</u> | <u>Formula Weight</u> | <u>Hazardous</u> | <u>% by Weight</u> |
|------------------------|-------------|-------------------------|-----------------------|------------------|--------------------|
| Ninhydrin, Monohydrate | 485-47-2 | $C_9H_4O_3 \cdot H_2O$ | 178.14 | Yes | 100 |

4. FIRST AID MEASURES

First Aid Procedures:

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|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation: | Remove to fresh air. If breathing is difficult, administer oxygen. If the victim is not breathing, provide artificial respiration. Get medical attention if symptoms persist. |
| Ingestion: | Do not induce vomiting unless directed to do so by medical personnel. Give several glasses of water to drink. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Get medical attention. |
| Skin Contact: | Wash affected area with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if symptoms occur. |
| Eye Contact: | Check for and remove contact lenses. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if symptoms persist. |

General Advice: In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

Notes to Physician: Treat symptomatically. Symptoms may be delayed.

5. FIRE FIGHTING MEASURES

NFPA Ratings: Health: 2 Flammability: 1 Reactivity: 0

Flammable Properties: May be combustible at high temperatures.

Flash Point: No information found

Auto-ignition Temp: No information found

Flammable Limits in Air (% by volume): Lower Explosion Limit: No information found.
Upper Explosion Limit: No information found.

Suitable Extinguishing Media: Water spray, dry powder, alcohol resistant foam, carbon dioxide

Unsuitable Extinguishing Media: Do not use a solid (straight) water stream as it may scatter and spread fire.

Hazardous Combustion Products: Carbon oxides

Specific Hazards: May be flammable or explosive in the presence of flames, heat, or sparks. High powder concentrations in the air may cause an explosion hazard.

Special Protective Equipment For Firefighters: As in any fire, wear MSHA/NIOSH approved (or equivalent) self-contained positive pressure or pressure-demand breathing apparatus and full protective gear.

Specific Methods: Use water spray to cool unopened containers. Move containers from fire area if this can be done without risk. In the event of fire and/or explosion, do not breathe fumes.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ventilate area of leak or spill. Isolate hazard area and keep unnecessary and unprotected personnel away from the area of the leak or spill. Wear appropriate personal protective equipment as specified in the Exposure Control and Personal Protection Section 8. Avoid contact with eyes, skin, and clothing.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. In case of large spill, dike if needed.

Methods for Containment: Prevent entry into waterways, sewer, basements or confined areas. Dike the spilled material, where this is possible.

Methods for Cleaning Up: Absorb spill with an inert material (e.g. vermiculite, dry sand, earth, cloth, fleece), and place in a suitable container for reclamation or disposal. Clean contaminated surface thoroughly. Never return spills in original containers for re-use. Clean up in accordance with all applicable regulations.

7. HANDLING AND STORAGE

Handling: Wear personal protective equipment (see section 8). Use only in well-ventilated areas. Provide sufficient air exchange and/or exhaust in work rooms. Avoid contact with skin, eyes and clothing. Do not breathe dust. Do not ingest. When using, do not smoke. Keep away from heat, flame, and incompatible materials. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquids). Observe all warnings and precautions listed for the product.

Storage: Store in a cool, dry, ventilated area. Keep out of light. Store in a segregated and approved area away from flame, heat, and incompatible materials. Store in original container and out of excessive light. Keep containers tightly closed and upright. Keep away from food, drink and animal feedingstuffs. Keep out of the reach of children.

8. EXPOSURE CONTROL AND PERSONAL PROTECTION

Exposure Limits: No information found

Engineering Controls: Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal Protective Equipment:

Eye/Face Protection: Wear goggles or safety glasses with side shields and a face shield.

Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Respiratory Protection: Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

General Hygiene Considerations: Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Provide eyewash station and safety shower.

9. PHYSICAL AND CHEMICAL PROPERTIES

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|-------------------------------------------------|----------------------------------------------|
| Physical State: | Solid |
| Appearance: | Crystalline powder |
| Color: | Light yellow |
| Odor: | Characteristic |
| Molecular Formula: | $C_9H_4O_3 \cdot H_2O$ |
| Molecular Weight: | 178.14 |
| pH: | 4.6 – 5.0 (1% w/v aqueous solution at 20 °C) |
| Specific Gravity: | 0.86 |
| Freezing/Melting Point: | 250 °C (Thermal decomposition) |
| Boiling Point: | No information found |
| Flash Point: | No information found |
| Auto Ignition Temperature: | No information found |
| Flammable Limits in Air (% by Volume): | |
| Upper: | No information found |
| Lower: | No information found |
| Solubility: | Soluble in water |
| Vapor Pressure: | No information found |
| Vapor Density: | 6.16 |
| Percent Volatile: | 0% at 21 °C (70 °F) |
| Odor threshold (ppm): | No information found |
| Evaporation Rate: | No information found |
| Partition Coefficient (n-octanol/water): | No information found |

10. STABILITY AND REACTIVITY

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|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Stability: | Stable under normal conditions. |
| Conditions to Avoid: | Heat, flames, excessive light, dust generation, incompatible materials |
| Incompatible Materials: | Strong oxidizers, strong bases, amines |
| Hazardous Decomposition Products: | Carbon oxides |
| Possibility of Hazardous Reactions: | Can react vigorously, violently or explosively with the incompatible materials listed above. High concentrations of dust in the air may cause an explosion hazard. |
| Hazardous Polymerization: | Will not occur. |

11. TOXICOLOGICAL INFORMATION

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|----------------------------|--------------------------|
| Toxicological Data: | Oral Rat LD50: 600 mg/kg |
| | Oral Rat LDL: 250 mg/kg |

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|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Acute Effects: | May cause irritation if inhaled, ingested, or exposed to the eyes or skin. |
| Local Effects: | May affect the central nervous system, the cardiovascular system, and the respiratory system if ingested. |
| Sensitization: | May cause skin sensitization. |
| Chronic Effects: | Repeated or prolonged skin exposure may cause allergic reactions. Repeated or prolonged inhalation may cause occupational asthma. |
| Carcinogenic Effects: | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| Skin Corrosion/Irritation: | Causes irritation. May cause discoloration. |
| Epidemiology: | No epidemiological data is available for this product. |
| Mutagenicity: | No information found |
| Neurological Effects: | May affect behavior or central nervous system if ingested. |
| Reproductive Effects: | No information found |
| Teratogenic Effects: | No information found |
| Target Organs and Symptoms: | Skin, eyes, lungs, gastrointestinal tract, central nervous system, cardiovascular system. Irritation, dermatitis, coughing, shortness of breath, nausea, vomiting, diarrhea, behavioral effects, dyspnea. |

12. ECOLOGICAL INFORMATION

| | |
|-------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| Ecotoxicological Data: | No information found |
| Ecotoxicity: | No information found |
| Environmental Effects: | This product is not expected to be harmful to the environment. |
| Persistence and Degradability: | Long term biodegradation may occur. Products of biodegradation are less toxic than the product itself. |
| Partition Coefficient (n-octanol/water): | No information found |

13. DISPOSAL INFORMATION

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|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal Instructions: | All wastes must be handled in accordance with local, state and federal regulations. |
| Contaminated Packaging: | Since emptied containers retain product residue, follow label warnings even after container is emptied. Offer rinsed packaging material to local recycling facilities. |
| Waste Codes: | No information found |

14. TRANSPORT INFORMATION

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|-------------|---------------|
| DOT: | Not regulated |
|-------------|---------------|

15. REGULATORY INFORMATION

U.S. Federal Regulations:

OSHA: This product is considered a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Inventory: Ninhydrin, Monohydrate

U.S. EPCRA (SARA Title III):

| Sections 311/312: | <u>Hazard Categories</u> | <u>List (Yes/No)</u> |
|--------------------------|----------------------------------|----------------------|
| | Section 311 – Hazardous Chemical | Yes |
| | Immediate Hazard | Yes |
| | Delayed Hazard | No |
| | Fire Hazard | No |
| | Pressure Hazard | No |
| | Reactivity Hazard | No |

Section 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.

CERCLA: No information found

| International Inventories: | <u>Country(s) or Region</u> | <u>Inventory Name</u> | <u>On Inventory (Yes/No)*</u> |
|-----------------------------------|-----------------------------|------------------------------------------------------------------------|-------------------------------|
| | Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| | Canada | Domestic Substances List (DSL) | Yes |
| | Canada | Non-Domestic Substances List (NDSL) | No |
| | China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| | Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| | Europe | European List of Notified Chemical Substances (ELINCS) | No |
| | Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| | Korea | Existing Chemicals List (ECL) | Yes |
| | New Zealand | New Zealand Inventory | No |
| | Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |

*A "Yes" indicates that the listed component(s) of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

Product Use: Laboratory and/or field reagent

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Issue Date: 08/29/2013

Reason for Revision: Not applicable