

SDS

SAFETY DATA SHEET

Oakwood Products, Inc
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Estill, SC 29918
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Phone Numbers:

Product Information	803-739-8800
Transportation Emergency	800-451-8346
Outside the USA	760-602-8700

MATERIAL IDENTIFICATION

NAME: Hydrazine hydrate (80% solution in water)
CAS#: [7803-57-8]
CAT#: 105635
For R&D use only.

HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids (Category 4)
Acute toxicity, oral (Category 3)
Acute toxicity, dermal (Category 3)
Skin corrosion/irritation (Category 1B)
Sensitisation, Skin (Category 1)
Serious eye damage/eye irritation (Category 1)
Acute toxicity, inhalation (Category 3)
Germ cell mutagenicity (Category 2)
Carcinogenicity (Category 1B)
Specific target organ toxicity, repeated exposure (Category 1)
Hazardous to the aquatic environment, acute hazard (Category 2)
Hazardous to the aquatic environment, long-term hazard (Category 1)

GHS Label elements, including precautionary statements**Pictograms****Signal Word****Danger****Hazard Statement(s)**

H227	Combustible liquid
H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H317	May cause an allergic skin reaction

H318	Causes serious eye damage
H331	Toxic if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H372	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
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.
P210	Keep away from heat/sparks/open flames/hot surfaces. — No smoking.
P220	Keep/Store away from clothing/.../combustible materials.
P231	Handle under inert gas.
P233	Keep container tightly closed.
P235	Keep cool.
P250	Do not subject to grinding/shock/.../friction.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
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.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/Take off Immediately all contaminated clothing. Rinse SKIN with water/shower.
P304 + P340	IF INHALED: Remove victim to fresh air and Keep at rest in a position 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.
P310	Immediately call a POISON CENTER or doctor/physician.
P333 + P313	IF SKIN irritation or rash occurs: Get medical advice/attention.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage. Hazardous to the aquatic environment
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P422	Store contents under inert gas.

COMPOSITION/INFORMATION ON INGREDIENTS

Formula : H4N2H2O

CAS	Description	Concentration
7803-57-8	Hydrazine monohydrate	80%
7732-18-5	Water	20%

FIRST AID MEASURES

- In case of eye contact**
Immediately flush eyes with running water for at least 15 minutes while keeping eyes open. Seek medical attention.
- In case of skin contact**
Wash thoroughly with soap and plenty of water. Seek medical attention.
- If inhaled**
Remove victim from source of exposure to fresh air. If breathing is difficult, administer oxygen. Seek medical attention.
- If swallowed**
Do not induce vomiting. Give water to victim to drink. Seek medical attention.

FIRE-FIGHTING MEASURES

- Suitable extinguishing media**
Use carbon dioxide, dry chemical powder, alcohol-resistant or polymer foam.
- Special protective equipment for fire-fighters**
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- Unusual fire and explosion hazards/decomposition of product**
emits toxic fumes under fire conditions.

ACCIDENTAL RELEASE MEASURES

- Personal precautions**
Use personal protective equipment. Avoid breathing fumes, vapors, mists or gas. Ventilate area. Remove all sources of ignition. Evacuate personnel.
- Environmental precautions**
Prevent further leakage if safe to do so.
- Methods and materials for containment and clean up**
Absorb spills on sand or vermiculite and place in closed container for disposal.

HANDLING AND STORAGE

- Precautions for safe handling**
Avoid prolonged use. Avoid all direct contact with material. Do not breathe dust or vapor. Wash thoroughly after handling.
Possible carcinogen

Precautions for safe storage

Keep container tightly closed. Store in a cool, dry, well-ventilated area.
Air sensitive
Keep cold.

EXPOSURE CONTROL/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protective equipment

Eye/face protection

Wear protective safety goggles or face shields tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Hand/skin protection

Avoid all direct contact with product.
Wear chemical-resistant gloves.
Wear protective clothing and boots.
After contact with skin, wash immediately.

Respiratory protection

Ensure adequate ventilation during use. Approved respiratory equipment must be used when airborne concentrations are unknown or exceed the exposure limits.

PHYSICAL AND CHEMICAL PROPERTIES

Appearance	clear colorless liquid
Odour	no data available
Odour Threshold	no data available
Melting point/Freezing Point	no data available
Boiling Point	243-246°C
Flash Point	75°C-closed cup
Evaporation Rate	no data available
Flammability (solid, gas)	no data available
Upper/Lower Flammability or Explosive limits	no data available
Vapour pressure	no data available
Relative Density	1.02
Solubility(ies)	no data available
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	no data available
Decomposition temperature	no data available
Viscosity	no data available
Refractive Index	no data available

STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

no data available

Conditions to avoid

Air.

Incompatible materials

Strong oxidizing agents, strong acids, strong bases, metals, halogens, and organic substances, nitro compounds, metallic oxides.

Hazardous decomposition products

May evolve and nitrogen oxides.

TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

221.25 mg/kg (calculation)

For hydrazine monohydrate: Rat - 107-173 mg/kg

Inhalation LC50

3.75 mg/L 4h, vapor calculation method

For hydrazine monohydrate: Rat - 0.76 mg/L; 4h, dust/mist

Dermal LD50

375 mg/kg (calculation)

Skin corrosion/irritation

Mixture causes burns

Serious eye damage/eye irritation

Mixture causes serious eye damage. Risk of blindness!

Respiratory or skin sensitization

Mixture may cause an allergic skin reaction.

Germ cell mutagenicity

Suspected of causing genetic defects

Carcinogenicity

May cause cancer. (hydrazine monohydrate)

IARC: Group 2B possibly carcinogenic to humans

NTP: Anticipated carcinogen

ACGIH: Confirmed animal carcinogen with unknown relevance to humans.

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

Causes damage to organs through prolonged or repeated exposure

Aspiration hazard

no data available

Exposure Routes

Harmful to skin, eyes, and respiratory system.
Toxic if swallowed.

Signs and Symptoms of Exposure

Headache, Convulsions, Cardiac irregularities, CNS disorders, Dizziness, respiratory arrest Risk of methemoglobin formation with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea and spasms, principal symptom: cyanosis (blue discoloration of the blood). The substance has delayed effects. Damage to: Liver, Kidney, Cardiac, Central nervous system Other dangerous properties can not be excluded. This substance should be handled with particular care.

Diarrhea, Nausea, Vomiting, Headache, Spasm, CNS disorders, Irregular cardiac activity, Lung edema, Dizziness Risk of methemoglobin formation with headache, cardiac dysrhythmia, drop in blood pressure, dyspnoea and spasms, principal symptom: cyanosis (blue discoloration of the blood). Irritation and corrosion, Allergic reactions, Cough, Shortness of breath Risk of blindness

To the best of our knowledge, the health hazards of this material have not been fully investigated.

ECOLOGICAL INFORMATION**Toxicity**

Toxicity to fish (hydrazine monohydrate)
LC50: (guppy) 0.61 mg/L, 48h
Toxicity to algae:
static test EC50: 0.017 mg/L; 72h
Toxicity to water flea:
semi static test: 0.01 mg/L; 21 d

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

DISPOSAL CONSIDERATIONS

Dissolve in or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all Federal, State and local laws.

TRANSPORT INFORMATION**DOT**

Hydrazine aqueous solution
8, 6.1
UN2030 II

IMDG

Hydrazine aqueous solution
8, 6.1
UN2030 II
EMS-No: F-A, S-B
Marine Pollutant: No

IATA

Hydrazine aqueous solution
8, 6.1
UN2030 II
IATA Passenger: Forbidden for transport

REGULATORY INFORMATION

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

SARA 313: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313.

New Jersey Right to Know Components

This product contains a chemical on the New Jersey Right to Know Components List.

CAS

Hydrazine monohydrate

7803-57-8

Water

7732-18-5

California Prop. 65 Components

This product does not contain a chemical known to the State of California to cause cancer, birth defects, or other reproductive harm.

OTHER INFORMATION

Version : 1.1

Revision Date : 12/14/2021

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. Oakwood shall not be held liable for any damage resulting from handling or from contact with the above product.