

SDS

SAFETY DATA SHEET

Oakwood Products, Inc
730 Columbia HWY N
Estill, SC 29918
www.oakwoodchemical.com

Phone Numbers:

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

MATERIAL IDENTIFICATIONNAME: **Benzidine**

CAS#: [92-87-5]

CAT#: 216429

For R&D use only.

HAZARDS IDENTIFICATION**GHS Classification**

Acute toxicity, oral (Category 4)

Acute toxicity, dermal (Category 3)

Acute toxicity, inhalation (Category 1)

Sensitisation, respiratory (Category 1)

Respiratory tract irritation (Category 3)

Carcinogenicity (Category 1A)

Hazardous to the aquatic environment, long-term hazard (Category 1)

GHS Label elements, including precautionary statements

Pictograms



Signal Word

Danger

Hazard Statement(s)

H302

Harmful if swallowed

H311

Toxic in contact with skin

H330

Fatal if inhaled

H334

May cause allergy or asthma symptoms or breathing difficulties if inhaled

H335

May cause respiratory irritation

H350

May cause cancer

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. |
| P273 | Avoid release to the environment. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P301 + P312 | IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell. |
| 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 + P313 | IF exposed or concerned: Get medical advice/attention. |
| P312 | Call a POISON CENTER or doctor/physician if you feel unwell. |
| P391 | Collect spillage. Hazardous to the aquatic environment |

COMPOSITION/INFORMATION ON INGREDIENTS

| | |
|------------------|--|
| Synonyms | : 4,4'-Diaminobiphenyl |
| Formula | : C ₁₂ H ₁₂ N ₂ |
| Molecular Weight | : 184.24 g/mol |

| CAS | Description | Concentration |
|---------|-------------|---------------|
| 92-87-5 | Benzidine | 98% |

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.

Precautions for safe storage

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

EXPOSURE CONTROL/PERSONAL PROTECTION**Exposure Limits:**

| | | TWA | |
|----------------------|-----------|-----|-------|
| Component Name (CAS) | Reference | ppm | mg/m3 |
| Benzidine (92-87-5) | OSHA | – | – |

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 | beige powder with lumps |
| Odour | no data available |
| Odour Threshold | no data available |
| Melting point/Freezing Point | no data available |

| | |
|--|-------------------|
| Boiling Point | no data available |
| Flash Point | no data available |
| 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 | no data available |
| 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

Light.

Moisture.

Incompatible materials

Strong oxidizing agents.

Hazardous decomposition products

May evolve carbon monoxide, carbon dioxide, and nitrogen oxides.

TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

Rat - 309 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled

Germ cell mutagenicity

no data available

Carcinogenicity

Repeated absorption may result in bladder tumors. This is or contains a component that has been

reported to be carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Human carcinogen.

Reproductive toxicity

no data available

STOT-single exposure

May cause respiratory irritation

STOT-repeated exposure

no data available

Aspiration hazard

no data available

Exposure Routes

Harmful to skin, eyes, and respiratory system.

May be toxic if inhaled or swallowed.

Signs and Symptoms of Exposure

Livery injury may occur. Kidney injury may occur. Blood disorders, nausea, vomiting.

Additional Information

RTECS: DC9625000

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

ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish:

LC50 - Oncorhynchus mykiss (rainbow trout) - 7.4 mg/l - 96.0h

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

Benzidine
6.1
UN1885 II
Reportable Quantity (RQ): 1 lbs

IMDG

Benzidine
6.1
UN1885 II
EMS-No: F-A, S-A
Marine Pollutant: Yes

IATA

Benzidine
6.1
UN1885 II

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: The following chemicals in this material are subject to the reporting requirements of SARA Title III, Section 313:

| | CAS |
|-----------|------------|
| Benzidine | 92-87-5 |

New Jersey Right to Know Components

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

| | CAS |
|-----------|------------|
| Benzidine | 92-87-5 |

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer, birth defects, or any other reproductive harm.

| | CAS |
|-----------|------------|
| Benzidine | 92-87-5 |

OTHER INFORMATION

Version : 1.0

Revision Date : 5/23/2016

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.