

# SAFETY DATA SHEET

# spectrum®



Revision date 11-January-2023

Revision Number 1

## 1. Identification

### Product identifier

Product Name BENZIDINE

### Other means of identification

Product Code(s) B2010

UN/ID no UN1885

Synonyms None

### Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

### Details of the supplier of the safety data sheet

#### Supplier Address

Spectrum Chemical Mfg. Corp.  
14422 South San Pedro St.  
Gardena, CA 90248  
(310) 516-8000

### Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

## 2. Hazard(s) identification

### Classification

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1A
Carcinogenicity	Category 1A
Specific target organ toxicity (single exposure)	Category 3

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

Danger

### Hazard statements

Harmful if swallowed

Causes skin irritation  
Causes serious eye irritation  
May cause an allergic skin reaction  
May cause cancer  
May cause respiratory irritation



**Appearance** Crystalline powder

**Physical state** Solid

**Odor** No information available

#### **Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Contaminated work clothing must not be allowed out of the workplace

#### **Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
Specific treatment (see .? on this label)  
IF IN EYES: 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 ON SKIN: Wash with plenty of water and soap  
Take off contaminated clothing and wash it before reuse  
If skin irritation or rash occurs: Get medical advice/attention  
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell  
Rinse mouth

#### **Precautionary Statements - Storage**

Store locked up.

#### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Other information**

Very toxic to aquatic life with long lasting effects. Very toxic to aquatic life.

### **3. Composition/information on ingredients**

#### **Substance**

Chemical name	CAS No	Weight-%
Benzidine	92-87-5	100

### **4. First-aid measures**

#### **Description of first aid measures**

<b>General advice</b>	Show this safety data sheet to the doctor in attendance. IF exposed or concerned: Get medical advice/attention.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
<b>Skin contact</b>	May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with soap and plenty of water for at least 15 minutes.
<b>Ingestion</b>	Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

#### **Most important symptoms and effects, both acute and delayed**

**Symptoms** Itching. Rashes. Hives. May cause redness and tearing of the eyes. Burning sensation.

#### **Indication of any immediate medical attention and special treatment needed**

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

### **5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Large Fire</b>	CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	Product is or contains a sensitizer. May cause sensitization by skin contact.
<b>Explosion data</b>	
<b>Sensitivity to mechanical impact</b>	none.
<b>Sensitivity to static discharge</b>	none.
<b>Special protective equipment for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

### **6. Accidental release measures**

#### **Personal precautions, protective equipment and emergency procedures**

<b>Personal precautions</b>	Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
<b>Other information</b>	Refer to protective measures listed in Sections 7 and 8.

#### **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Store locked up.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear safety glasses with side shields (or goggles).

#### Hand protection

Wear suitable gloves. Impervious gloves.

#### Skin and body protection

Wear suitable protective clothing. Long sleeved clothing.

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Wear suitable gloves and eye/face protection. Avoid contact with skin, eyes or clothing.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

#### Physical state

Solid

#### Appearance

Crystalline powder

#### Color

White to beige or pink

#### Odor

No information available

#### Odor threshold

No information available

### Property

### Values

### Remarks • Method

#### pH

no data available

None known

#### Melting point / freezing point

127 °C / 260.6 °F

None known

#### Boiling point / boiling range

401 °C / 753.8 °F

None known

#### Flash point

no data available

None known

Evaporation rate	no data available	None known
Flammability (solid, gas)	no data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Vapor pressure	No data available	None known
Vapor density	no data available	None known
Relative density	1.25 (Water = 1)	None known
Water solubility	Very slightly soluble in cold water	None known
Solubility(ies)	Partially soluble in diethyl ether	None known
Partition coefficient	No data available	None known
Autoignition temperature	no data available	None known
Decomposition temperature		None known
Kinematic viscosity	no data available	None known
Dynamic viscosity	No data available	None known
<b>Other information</b>		
Explosive properties	No information available	
Oxidizing properties	No information available	
Softening point	No information available	
Molecular weight	No information available	
VOC Content (%)	No information available	
Liquid Density	No information available	
Bulk density	No information available	

## 10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	None known based on information supplied.
Incompatible materials	Strong acids. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

Product Information	.
Inhalation	Specific test data for the substance or mixture is not available. May cause irritation of respiratory tract.
Eye contact	Specific test data for the substance or mixture is not available. Irritating to eyes. (based on components). Causes serious eye irritation.
Skin contact	May cause sensitization by skin contact. Specific test data for the substance or mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components). Causes skin irritation.
Ingestion	Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Harmful if swallowed. (based on components).

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Itching. Rashes. Hives. Redness. May cause redness and tearing of the eyes.

**Acute toxicity**

**Numerical measures of toxicity**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Benzidine 92-87-5	= 309 mg/kg ( Rat )	-	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** Classification based on data available for ingredients. Irritating to skin.  
**Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.  
**Respiratory or skin sensitization** May cause sensitization by skin contact.  
**Germ cell mutagenicity** No information available.  
**Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Benzidine 92-87-5	-	Monograph 100F [2012] Monograph 99 [2010] Supplement 7 [1987] Monograph 29 [1982]	-	-

**Legend**

**Reproductive toxicity** No information available.  
**STOT - single exposure** No information available.  
**STOT - repeated exposure** No information available.  
**Target organ effects** liver, kidney, Skin, blood, Bladder.  
**Aspiration hazard** No information available.  
**Other adverse effects** No information available.  
**Interactive effects** No information available.

**12. Ecological information**

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Benzidine 92-87-5	-	LC50: =20mg/L (96h, Pimephales promelas) LC50: =7.4mg/L (96h, Oncorhynchus mykiss)	-	-

**Persistence and degradability** No information available.  
**Bioaccumulation** Inherently biodegradable.

**Other adverse effects** No information available.

**13. Disposal considerations**

**Waste treatment methods**

**Waste from residues/unused** Dispose of in accordance with local regulations. Dispose of waste in accordance with

<b>products</b>	environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

## 14. Transport information

### DOT

<b>UN/ID no</b>	UN1885
<b>Proper shipping name</b>	Benzidine
<b>Hazard class</b>	6.1
<b>Special Provisions</b>	II
<b>Special Provisions</b>	IB8, IP2, IP4, T3, TP33
<b>Description</b>	UN1885, Benzidine, 6.1, II, Marine pollutant

### TDG

<b>UN/ID no.</b>	UN1885
<b>Proper shipping name</b>	Benzidine
<b>Hazard class</b>	6.1
<b>Packing Group</b>	II
<b>Description</b>	UN1885, Benzidine, 6.1, II

### MEX

<b>UN-No</b>	UN1885
<b>Proper Shipping Name</b>	Benzidine
<b>Hazard class</b>	6.1
<b>Packing Group</b>	II
<b>Description</b>	UN1885, Benzidine, 6.1, II

### ICAO (air)

<b>UN/ID no.</b>	UN1885
<b>Hazard class</b>	6.1
<b>Packing Group</b>	II

### IATA

<b>UN number</b>	UN1885
<b>Hazard Class</b>	6.1
<b>Packing group</b>	II
<b>Emergency Response Guide Number</b>	6L

### IMDG

<b>UN number</b>	UN1885
<b>Hazard Class</b>	6.1
<b>Packing group</b>	II
<b>EmS-No</b>	F-A, S-A
<b>Marine Pollutant</b>	P

### RID

<b>UN number</b>	UN1885
<b>Proper shipping name</b>	BENZIDINE
<b>Hazard Class</b>	6.1
<b>Packing group</b>	II
<b>Classification code</b>	T2
<b>Description</b>	UN1885, BENZIDINE, 6.1, II, ENVIRONMENTALLY HAZARDOUS
<b>Labels</b>	6.1

### ADR

<b>UN number</b>	UN1885
<b>Proper shipping name</b>	Benzidine
<b>Hazard Class</b>	6.1
<b>Packing group</b>	II
<b>Classification code</b>	T2
<b>Tunnel restriction code</b>	(D/E)
<b>Description</b>	UN1885, Benzidine, 6.1, II, (D/E), ENVIRONMENTALLY HAZARDOUS

Labels 6.1

**ADN**

UN/ID No UN1885  
Proper shipping name Benzidine  
Hazard Class 6.1  
Packing Group II  
Classification code T2  
Special Provisions 802  
Description UN1885, Benzidine, 6.1, II, ENVIRONMENTALLY HAZARDOUS  
Hazard label(s) 6.1  
Equipment Requirements PP, EP

**15. Regulatory information**

**International Inventories**

TSCA Complies

DSL/NDL Does not Comply  
EINECS/ELINCS Complies  
ENCS This product complies with ENCS:  
IECSC This product complies with China:  
KECL Does not Comply  
PICCS Complies  
AICS All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS).

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory  
DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List  
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
ENCS - Japan Existing and New Chemical Substances  
IECSC - China Inventory of Existing Chemical Substances  
KECL - Korean Existing and Evaluated Chemical Substances  
PICCS - Philippines Inventory of Chemicals and Chemical Substances

**US Federal Regulations**

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
Benzidine - 92-87-5	0.1

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Benzidine 92-87-5	1 lb final RQ 0.454 kg final RQ	-



## US State Regulations

### California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65
Benzidine - 92-87-5	carcinogen

## U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Benzidine 92-87-5	0204	Present	Environmental hazard Special hazardous substance

## U.S. EPA Label Information

**EPA Pesticide Registration Number** Not applicable

## **16. Other information**

### NFPA

**Health hazards** 2

**Flammability** 0

**Instability** 0

**Physical and chemical properties** -

### HMIS

**Health hazards** 2 \*

**Flammability** 0

**Physical hazards** 0

**Personal protection** X

*Chronic Hazard Star Legend*

*\* = Chronic Health Hazard*

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA TWA (time-weighted average)

STEL

STEL (Short Term Exposure Limit)

Ceiling Maximum limit value

### **Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AELG(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 11-January-2023  
Revision Note No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**