



Centre Anti-Poison pour le Québec: (800) 463-5060  
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## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier BENZIDINE		Product Use Laboratory use	
Chemical formula C <sub>12</sub> H <sub>12</sub> N <sub>2</sub>		Product code BP-0853	Molar weight 184,24
Chemical name / Commercial name / Synonymous 4,4'-diaminobiphenyl, 4,4'-BIANILINE, 4,4'-DIPHENYLENEDIAMINE, P,P'-DIAMINOBIPHENYL, P,P'-DIANILINE			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
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Emergency phone	CANUTEC: 613-996-6666	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 3/1/2021	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

### SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Carcinogenicity category 1A Acute toxicity - Oral category 4
Signal Word	DANGER
Hazards statements (H)	H302 Harmful if swallowed. H350 May cause cancer.
Precautionary statements (P)	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P264 Wash the areas of the body that have been in contact with the product after handling. P270 Do not eat, drink or smoke when using this product. 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. P308 + P313 IF exposed or concerned: Get medical advice/attention. P330 Rinse mouth. P405 Store locked up. P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 3 Fire 0 Reactivity 0 Special danger

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Benzidine	92-87-5	<=100

## SECTION 04 - FIRST AID MEASURES

<b>Eye contact</b>	Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.
<b>Skin contact</b>	Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. If irritation persists, seek medical attention.
<b>Inhalation</b>	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
<b>Ingestion</b>	If the person is conscious, rinse the mouth with water. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	Main symptoms of high exposure: Can cause skin allergy. Liver damage. Kidney damage. Nausea and vomiting. Ref. section 11.
<b>Immediate medical attention and special treatment, if necessary</b>	In case of medical consultation, keep this sheet available.
<b>General advice</b>	Show this safety data sheet to the doctor in attendance.

## SECTION 05 - FIREFIGHTING MEASURES

<b>Flammability</b>	No
<b>Ignition conditions</b>	Non flammable.
<b>Suitable extinguishing media</b>	Carbon dioxide, foam, dry chemical powder, alcohol foam.
<b>Unsuitable extinguishing media</b>	Water should be avoided due to the risk of environmental contamination.
<b>Hazardous combustion products</b>	Hazardous combustion products formed under fire conditions: Carbon oxides, Nitrogen oxides (NO <sub>x</sub> ).
<b>Special fire and explosion hazards</b>	May react violently with incompatible products (Ref Section 10).
<b>Special protective equipment and precautions for firefighters</b>	Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

<b>Methods and materials for containment and cleaning up / Personnel precautions, protective equipment</b>	Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Pick up with a shovel or broom, taking care not to scatter dust. Avoid dust formation. Dispose of residues in a container provided for the disposal of hazardous materials. Do not let product enter drains. Discharge into the environment must be avoided.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Light sensitive. Keep away from oxidizing materials.
<b>Methods of handling</b>	Avoid contact with the skin, eyes and clothes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

Components	CAS-No.	Control	Value	Basis
BENZIDINE	92-87-5	TLV, TWA, STEL	No data available	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TLV, TWA, STEL	No data available	Canada. British Columbia OEL
		TLV, TWA, STEL	No data available	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

<b>Ventilation</b>	Use fan.
<b>Respiratory</b>	If the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
<b>Gloves</b>	Handle with gloves.
<b>Eyes</b>	Safety goggles with safety shutters.
<b>Shoes</b>	Safety shoes.
<b>Clothing</b>	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
<b>Engineering control</b>	Have safety showers and eyewash stations in the workplace in case of an emergency and a ventilation system to maintain the level of concentrations in the air below the exposure limit values.

## SECTION 09 - PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	Solid.
<b>Appearance</b>	Poudre beige/blanc.
<b>Odour</b>	Donnée non disponible.
<b>Odour threshold</b>	Data not available
<b>pH</b>	10,5 solution aqueuse saturée (pH calculé).
<b>Melting point / Freezing point</b>	127°C
<b>Initial boiling point</b>	400°C
<b>Boiling range</b>	Data not available
<b>Flash point</b>	Data not available
<b>Evaporation rate</b>	Data not available
<b>Flammability</b>	No
<b>Lower flammable / Explosive limit</b>	Data not available
<b>Upper flammable / Explosive limit</b>	Data not available
<b>Vapour pressure</b>	Data not available
<b>Vapour density</b>	6.36 (air=1).
<b>Relative density</b>	1.250g/cm <sup>3</sup>
<b>Solubility</b>	Soluble dans l'eau..
<b>Partition coefficient water/n-octanol</b>	log Pow= 1.34.
<b>Auto-ignition temperature</b>	Data not available
<b>Decomposition temperature</b>	Data not available
<b>Viscosity</b>	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	May react violently with incompatible substances.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	May react violently with incompatible substances.
<b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b>	If exposed to air and light, it oxidizes easily, taking on a reddish-brown color.
<b>Incompatible material</b>	Strong oxidizing agents. May ignite spontaneously on contact with fuming nitric acid.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. Carbon oxides, Nitrogen oxides (NOx).

## SECTION 11 - TOXICOLOGICAL INFORMATION

### BENZIDINE

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	To our knowledge, the product has not been fully studied.
<b>- Skin</b>	This product causes skin sensitization. May be absorbed through the skin.
<b>- Inhalation</b>	To our knowledge, the product has not been fully studied.
<b>Acute toxicity (Ingestion)</b>	Toxic if swallowed. To our knowledge, the product has not been fully studied.
<b>Chronic exposure effects / symptoms</b>	Is recognized as a carcinogen (class 1) by IARC. Repeated absorption can cause bladder tumors. Liver damage may occur., Kidney damage may occur., Blood disorders, Nausea, Vomiting.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 309 mg/kg. LD50 Dermal - Data not available.
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Data not available.

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	LC50 - Oncorhynchus mykiss (rainbow trout) - 7.4 mg/L - 96 h.
<b>Persistence and degradability</b>	Data not available.
<b>Bioaccumulative potential</b>	Bioaccumulation Leuciscus idus (Ide) - 3 days - 50 µg / l (Benzidine) Bioconcentration factor (BCF): 83
<b>Mobility in soil</b>	Data not available.
<b>Other adverse effects</b>	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

## SECTION 13 - DISPOSAL CONSIDERATIONS

<b>Waste Disposal Method</b>	Dispose of contents / container in accordance with local / regional / national / international regulations / or contact a specialist waste disposal company.
<b>Contaminated Packaging</b>	Dispose of as unused product.

## SECTION 14 - TRANSPORT INFORMATION

<b>UN Number</b>	1885
<b>UN Proper shipping name</b>	BENZIDINE
<b>Transport hazard class(es)</b>	6.1 Toxic substances
<b>Packing group</b>	II
<b>Limited quantity index</b>	0,5kg
<b>ERAP Index</b>	-
<b>Special precautions</b>	-

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Carcinogenicity category 1A Acute toxicity - Oral category 4
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## SECTION 16 - OTHER INFORMATION

### Further information

The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It does not represent any guarantee of the properties of the product. Laboratoire MAT Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.

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