

MATERIAL SAFETY DATA SHEET : PHMB P20 D

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Section 1. NAME & HAZARD SUMMARY.

PRODUCT NAME:	PHMB P20 D
Hazard summary	(as defined by OSHA Hazard Communication Standard, 29 CFR 1910.1200):
Physical hazards:	None.
Health hazards:	Harmful (methemoglobin former), irritant (eye, skin, respiratory, skin sensitizer)

Read the entire MSDS for a more thorough evaluation of the hazards.

Section 2. INGREDIENTS.

Chemical Name.	Percentages	OSHA PEL
Poly(hexamethylene biguanide hydrochloride), CAS# 91403-50-8 or 32289-58-0 or 27083-27-8	Approximately 20	Not listed
Water	Approximately 80	Not listed

Ingredient not precisely identified are proprietary or non hazardous.

Section 3. PHYSICAL DATA.

BOILING POINT	102°C	SOLUBILITY IN WATER	soluble
SPECIFIC GRAVITY	1.04	pH (water)	4.0 - 5.0
PHYSICAL STATE	liquid	COLOR	colorless to yellowish

Section 4. FIRE AND EXPLOSION HAZARD DATA.

FLASH POINT	Do not flash
AUTO- IGNITION TEMPERATURE	No data
FLAMMABLE LIMIT	Not applicable
EXTINGUISHING MEDIA	Not applicable, use media suitable for surrounding fire
SPECIAL EQUIPMENT	Self contained breathing apparatus with full faceplate and protective clothing if involved in a fire of other materials.
UNUSUAL FIRE & EXPLOSION HAZARDS	Not known.

Section 5. REACTIVITY DATA.

STABILITY	Stable under normal condition
INCOMPATIBILITY (material to avoid)	Copper, silver, sodium hydroxide, most metal
HAZARDOUS DECOMPOSITION PRODUCTS	Combustion products of dry material: carbon dioxide, carbon monoxide, nitrogen oxide, ammonia, halogen, halogen acids, possible trace of carbonyl halide.
HAZARDOUS POLYMERIZATION	Will not occur.

Section 6. HEALTH HAZARD ASSESSMENT.

Limited toxicity data are available on this specific product, this health hazard assessment is based on the results of screening tests.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT:	The concentrated material induced severe irritation in rabbit eye studies, but dilution of 5 % or less were non irritating
SKIN CONTACT:	This concentrated material induced moderate skin irritation in a 24-hour rabbit dermal irritation test. Dilution of 5 % or less were not irritating on rat skin. A 10 % solution of this material induced skin sensitization in human patch tests. Dermatitis and allergic skin reactions can develop on human skin after repeated/prolonged contact with 10 % solution or with higher concentration of this material.
SKIN ABSORPTION	The acute dermal LD 50 in rabbit is greater than 2 ml/Kg in rabbits. Relative to other materials, this product is practically non toxic by skin penetration. Systematically concentrations are unlikely to be absorbed through the skin in man.
INGESTION:	The acute oral LD 50 in rat is 2.5 to 2.7 g/ Kg. Relative to other materials, a single dose of this product is slightly toxic by ingestion. Irritation of the mouth, pharynx, esophage and stomach may develop following ingestion.
INHALATION:	<p>This product does not pose a vapor inhalation hazard, but repeated and/or prolonged aerosol exposures are potentially hazardous. Rats exposed to 0.25 mg/ m³ as an, aerosol for six hours per day, 5 day a week for three weeks developed methemoglobinemia, eye and respiratory irritation and pnemonitis.</p> <p>No adverse respiratory effects were observed at 0.025 mg/ m³ in air. The effects were more severe at higher concentrations. If aerosol exposure is limited and good industrial hygiene is practiced, the potential hazards associated with aerosol exposure will not be expressed.</p> <p>The symptoms of methemoglobinemia includes cyanosis (blue-tinged skin), euphoria, headache, flushed face, light-headedness, ataxis, weakness, rapid heart beat, labored breathing, nausea, vomiting and mental confusion. Hypertension, blindness, liver and kidney injury can result after extreme exposure.</p>
OTHER EFFECTS OF OVER EXPOSURE	PHMB, the active ingredient in this product, when administered to mice at very high doses, induced an increased incidence of cancer in mice. Under the conditions of anticipated use of this product, PHMB does not represent a risk to man.
FIRST AID PROCEDURE	<p>Skin: wash material off the skin with copious amount of soap and water. If redness, itching or a burning sensation develops get medical attention.</p> <p>Eyes : Immediately flush with copious amounts of water for at least 15 minutes and have eyes examined and treated by medical personnel.</p> <p>Ingestion: DO NOT induce vomiting. Give one or two glasses of water to drink and refer victim to medical personnel. (Never give anything by mouth to an unconscious person.)</p> <p>Inhalation: Remove person to fresh air. If cough or other respiratory symptoms develop, consult medical personnel.</p>

Section 7. SPILL OR LEAK PROCEDURE.

STEP TO BE TAKEN in case material is released or spilled:	Wear skin, eye and respiratory protection during cleanup. Contain spill and keep out of sewers and drains. Soak up liquid with absorbent and shovel into waste container. Cover container and remove from work area.
DISPOSAL METHOD:	Discarded product is not a hazardous waste under RCRA, 40 CFR 261. However, this material is toxic to fish. Do not contaminate waterways by cleaning of equipment or by disposal of waste. To deactivate this material, adjust pH of solution to 6.8 - 7.0. Add 5% solution of sodium hypochlorite (household bleach), 5 parts sodium hypochlorite solution to one part Revacil. Let stand for 48 hours. Dilute deactivated solution with plenty of water and discharge to a sewer serviced by a wastewater treatment facility.
CONTAINER DISPOSAL:	Empty container retains product residue. Observe all hazards precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue and puncture or otherwise destroy empty container before disposal.

Section 8. SPECIAL PROTECTION INFORMATION.

TLV or suggested control value:	No TLV assigned. Minimize exposure in accordance with good hygiene practice. Exposure to the aerosol should be reduced or eliminated.
VENTILATION :	Use local exhaust if aerosol is generated.
RESPIRATORY PROTECTION :	If needed, use MSHA_NIOSH approved respiratory equipment with high efficiency filter combined with cartridge approved for ammonia and methylamine
PROTECTIVE CLOTHING:	Prevent skin contact. Use impervious gloves. Depending upon conditions of use, additional protection may be required such as apron, arm covers or full body suit.
EYE PROTECTION:	Prevent eye contact. Wear chemical goggles.
Other protective equipment:	Eyewash station and safety shower in work area.

Section 9. SPECIAL PRECAUTIONS OR OTHER COMMENTS;

Precaution to be taken in handling or storing	Prevent skin and eye contact. Avoid breathing aerosols. Normal chemical handling and storage. Do not generate aerosol unless such can be fully contained such as in a closed system.
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Section 10. REGULATORY INFORMATION

TSCA :	All ingredients are on the TSCA Chemical Substance Inventory. (Toxic Substances Control Act), Regulation, 40 CFR 710)
CERCLA and SARA:	This product does not contain any chemicals subject to the reporting requirements of SARA Section 313. (Regulation, 40 CFR 355, 370 and 372).
OTHER INFORMATION:	We assigned NIPA and HMIS ratings to this product based on the hazards of its ingredients. Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product MSDS.

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