

EMS CATALOG NO: 11772-10
EMS PRODUCT: Phosphate Buffered Saline
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MATERIAL SAFETY DATA SHEET

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FOR PRODUCT AND SALES INFORMATION

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PRODUCT IDENTIFICATION

COMMON NAME: Phosphate Buffered Saline

COMMERCIAL NAME(S): Not available.

SYNONYM: Not available.

CHEMICAL NAME: Phosphate Buffered Saline

CHEMICAL FAMILY: Chloride salt. (Salt.)

CHEMICAL FORMULA: Not applicable

CAS# : Mixture

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Water, Sodium Chloride; Potassium Chloride, Sodium Phosphate dibasic

CI# : Not applicable.

COMPOSITION AND INFORMATION ON INGREDIENTS

NAME: Water
CAS# : 7732-18-5
TWA(mg/m3):
STEL (mg/m3):
% BY WEIGHT: 97

NAME: Sodium Chloride
CAS# : 7647-14-5
TWA(mg/m3):
STEL (mg/m3):
% BY WEIGHT: 1

NAME: Potassium Chloride
CAS# : 7447-40-7
TWA(mg/m3):
STEL (mg/m3):
% BY WEIGHT: 1

NAME: Sodium Phosphate, dibasic
CAS# : 7758-79-4
TWA(mg/m3):
STEL (mg/m3):
% BY WEIGHT: 1

TOXICOLOGICAL DATA ON INGREDIENTS:

SODIUM CHLORIDE

ORAL (LD50): Acute: 3000 mg/kg (Rat).

POTASSIUM CHLORIDE

ORAL (LD50): Acute: 2500 mg/kg (Guinea pig). 2600 mg/kg (Rat). 2715 mg/kg (Mouse).

SODIUM PHOSPHATE, DIBASIC

(LD50): Not available.

(LC50): Not available.

HAZARDS IDENTIFICATION

POTENTIAL ACUTE HEALTH EFFECTS: Hazardous in case of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion. Non-corrosive for skin. Non-permeator by skin.

POTENTIAL CHRONIC HEALTH EFFECTS: Non-Corrosive for skin. Non-irritant for skin. Non-sensitizer for skin. Non-permeator by skin. Non-irritating to the eyes. Non-hazardous in case of ingestion. Non-hazardous in case of inhalation.

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female.

Reproductive system/toxin/male (SUSPECTED) (Phosphate Buffered Saline).

This substance may be toxic to blood, the reproductive system, upper respiratory tract, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage.

FIRST AID MEASURES

EYE CONTACT: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

SKIN CONTACT: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops. Cold water may be used.

SERIOUS SKIN CONTACT: Not available.

INHALATION: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

SERIOUS INHALATION: Not available.

INGESTION: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention if symptoms appear.

SERIOUS INGESTION: Not available.

FIRE AND EXPLOSION DATA

FLAMMABILITY OF THE PRODUCT: Non-Flammable.

AUTO-IGNITION TEMPERATURE: Not applicable.

FLASH POINTS: Not applicable.

FLAMMABLE LIMITS: Not applicable.

PRODUCTS OF COMBUSTION: Not available.

FIRE HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES: Not applicable.

EXPLOSION HAZARDS IN PRESENCE OF VARIOUS SUBSTANCES:

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF MECHANICAL IMPACT: Not available.

RISKS OF EXPLOSION OF THE PRODUCT IN PRESENCE OF STATIC DISCHARGE: Not available.

FIRE FIGHTING MEDIA AND INSTRUCTIONS: Not applicable.

SPECIAL REMARKS ON FIRE HAZARDS: Not available.

SPECIAL REMARKS ON EXPLOSION HAZARDS: Not available.

ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local regional authority requirements.

LARGE SPILL: Absorb with an inert material and put the spilled material in an appropriate waste disposal.

HANDLING AND STORAGE

PRECAUTIONS: Keep locked up. Do not ingest. Do not breathe gas/fumes/vapor/spray. Avoid contact with eyes. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Keep away from incompatibles such as oxidizing agents, moisture.

STORAGE: Keep container tightly closed. Keep container in a cool, well-ventilated area.

EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

PERSONAL PROTECTION: Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent.

PERSONAL PROTECTION IN CASE OF A LARGE SPILL: Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

EXPOSURE LIMITS: Not available.

PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE AND APPEARANCE: Liquid.

ODOR: Not available.

TASTE: Not available.

COLOR: Not available.
MOLECULAR WEIGHT: Not applicable.
pH (1% SOLN/WATER): Neutral.
BOILING POINT: The lowest known value is 100°C (212°F)
MELTING POINT: Not available.
CRITICAL TEMPERATURE: Not available.
SPECIFIC GRAVITY: Weighted average: 1.01 (Water=1).
VAPOR PRESSURE: The highest known value is 2.3 kPa (@20°C)(Water)
VAPOR DENSITY: The highest known value is 0.62 (Air= 1) (Water).
VOLATILITY: Not available.
ODOR THRESHOLD: Not available.
WATER/OIL DIST. COEFF.: The product is much more soluble in water.
IONI CITY (IN WATER): Not available.
DISPERSION PROPERTIES: See solubility in water, methanol.
SOLUBILITY: Easily soluble in cold water, hot water, methanol. Insoluble in diethyl ether, n-octanol.

STABILITY AND REACTIVITY DATA

STABILITY: The product is stable.
INSTABILITY TEMPERATURE: Not available.
CONDITIONS OF INSTABILITY: Not available.
INCOMPATIBILITY WITH VARIOUS SUBSTANCES: Reactive with oxidizing agents. Slightly reactive to reactive with acids.
CORROSIVITY: Not considered to be corrosive for metals and glass.
SPECIAL REMARKS ON REACTIVITY: Explodes in presence of bromine trifluoride (Sodium chloride).
SPECIAL REMARKS ON CORROSIVITY: Not available.
POLYMERIZATION: Will not occur.

TOXICOLOGICAL INFORMATION

ROUTES OF ENTRY: Eye contact. Inhalation. Ingestion.
TOXICITY TO ANIMALS:
Acute oral toxicity (LD50): 2500 mg/kg (Guinea pig). (Potassium chloride).
DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male (SUSPECTED) (Phosphate Buffered Saline).
May cause damage to the following organs: blood, the reproductive system, upper respiratory tract, central nervous system. May cause damage to the following organs: Blood, the reproductive system, upper respiratory tract, central nervous system (CNS).
OTHER TOXIC EFFECTS ON HUMANS: Hazardous in case of inhalation. Slightly hazardous in case of skin contact (irritant), of ingestion. Non-permeator by skin.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: Not available.
SPECIAL REMARKS ON CHRONIC EFFECTS ON HUMANS: Passes through the placental barrier in animal (Potassium chloride).
SPECIAL REMARKS ON OTHER TOXIC EFFECTS ON HUMANS: Material is irritating to mucous membranes and upper respiratory tract. (Sodium chloride).

ECOLOGICAL INFORMATION

ECOTOXICITY: Not available.

BOD5 AND COD: Not available.

PRODUCTS OF BIODEGRADATION: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

TOXICITY OF THE PRODUCTS OF BIODEGRADATION: The product itself and its products of degradation are not toxic.

SPECIAL REMARKS ON THE PRODUCTS OF BIODEGRADATION: Not available.

DISPOSAL CONSIDERATIONS

WASTE DISPOSAL:

TRANSPORT INFORMATION

DOT CLASSIFICATION: Not a DOT controlled material (United States).

IDENTIFICATION: Not applicable.

SPECIAL PROVISIONS FOR TRANSPORT: Not applicable.

OTHER REGULATORY INFORMATION

FEDERAL AND STATE REGULATIONS:

California prop. 65: This product contains the following ingredients for which the State of California has bound to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Sodium Chloride

California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: Sodium Chloride

TSCA8(b)inventory: Water, Sodium chloride, Potassium chloride; Sodium phosphate, dibasic.

OTHER REGULATIONS:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200)

OTHER CLASSIFICATIONS:

WHMIS (CANADA): Class D-2A: Material causing other toxic effects (VERY TOXIC).

DSCLA (EEC): This product is not classified according to the EU regulations.

HMIS (U.S.A.):

HEALTH HAZARD:	1
FIRE HAZARD:	0
REACTIVITY:	0
PERSONAL PROTECTION:	j

NATIONAL FIRE PROTECTION ASSOCIATION (U.S.A.)

HEALTH: 1
FLAMMABILITY: 0
REACTIVITY: 2
SPECIFIC HAZARD:

PROTECTIVE EQUIPMENT:

Not applicable.

Lab coat.

Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Splash goggles.