SAFETY DATA SHEET

SECTION 01 - IDENTIFICATION

Product Identifier	PHOSPHORIC ACID 85%
Other identification (Chemical name, Commercial name, Synonymous)	Orthophosphoric acid.
Product code	PR-0185; PA-0185, PC-0185; PN-0185
Chemical formula	H_3PO_4
Molar weight	98
Recommended use and Restrictions on use	For laboratory, school, commercial or industrial use. Not for medical or household use. Do not use for medical, food or household purposes.
Supplier	LABORATOIRE MAT 610, rue Adanac Québec Québec G1C 7B7 418-660-8666 Mon-Fri 8h-16h www.labmat.com labmat@labmat.com
Emergency phone	418-660-8666 Mon-Fri 8h-16h CENTRE ANTI-POISON DU QUÉBEC 800-463-5060
Date SDS	2025-05-21

SECTION 02 - HAZARDS IDENTIFICATION

WHIMS CANADA

- Skin corrosion/irritation - Skin corrosion - category 1B
- Serious eye damage/eye irritation - Eye irritation - category 1
- Corrosive to metals - category 1
- Acute toxicity - Oral - category 4

PICTOGRAMS

Signal Word

DANGER

Hazards statements (H)

- Causes severe skin burns and eye damage
- Causes serious eye damage
- May be corrosive to metals
- Harmful if swallowed

Precautionary statements (P)

- Do not breathe mists, gases, vapors and other fumes, or the product itself.
- Wash thoroughly after handling.
- Wear protective gloves (nitrile, butyle, neoprene), protective clothing and eye and face protection.
- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water.
- Wash contaminated clothing before reuse.
- IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- Immediately call a POISON CENTER or a physician.
- Specific treatment (see section 4 on the SDS on this label).
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- Store locked up.
- Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
- Keep only in original container.
- Absorb spillage to prevent material damage.
- Store in a corrosion resistant container or a container with corrosion resistant liner.
- Do not eat, drink or smoke when using this product.
- IF SWALLOWED: Call a POISON CENTER or a physician if you feel unwell.
- Rinse mouth.

Other dangers

NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)

Health	3
Fire	0
Reactivity	1
Special danger	

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Component	No. CAS	% Weight
Phosphoric acid	7664-38-2	84-86%

SECTION 04 - FIRST AID MEASURE

Eye contact	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.
Skin contact	Wash skin with plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation persists, seek medical attention.
Inhalation	Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.
Ingestion	If the person is conscious, give water to drink. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	The product is a corrosive material. Main symptoms of high exposure: Chemical burns of the skin, eyes and respiratory and digestive mucous membranes. Skin, eye and respiratory system irritation. The corrosive effect will outweigh the toxicity for the concentrated product. Ref. section 11.
Immediate medical attention and special treatment, if necessary	Treat according to symptoms. Show this sheet to the attending physician.

SECTION 05 - FIREFIGHTING MEASURES

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Combustion products	Hazardous combustion products formed under fire conditions: Phosphorus oxides. Phosphine.
Specific hazards of the dangerous product	May react violently with incompatible products (Ref Section 10).
Special protective equipment and precautions for firefighters	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

Personal precautions, protective equipment and emergency measures	Evacuate personnel to safe areas. When handling, wear appropriate safety equipment (reference Section 8 for protective equipment to be used). Ensure a good ventilation. Use NIOSH cartridge respiratory protection for larger spills. Avoid breathing in vapours, spray mists or gases.
Methods and materials for containment and cleaning up	Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Discharge into the environment must be avoided.

SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Keep container tightly closed in a dry, well-ventilated place. Keep container tightly closed and store away from heat, water, moisture, and incompatible products (ref. section 10). Protect from frost.
Methods of handling	Wear personal protective equipment (ref. section 8) when handling. Always ensure good ventilation. Avoid breathing in vapors or mist. Avoid contact withh eyes, skin and clothing. Avoid ingestion and inhalation. Apply the usual standard hygiene rules: Wash your hands after use. Do not eat or drink during use.

SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

WORKPLACE CONTROL PARAMETERS

Components	CAS-No.	Control parameters	Value	Basis
Phosphoric acid	7664-38-2	TWA	1.000000 mg/m3	Canada. British Columbia OEL
		STEL	3.000000 mg/m3	Canada. British Columbia OEL
		TWA	1.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		STEL	3.000000 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
	Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		TWAEV	1.000000 mg/m3	Canada. Ontario OELs
		STEV	3.000000 mg/m3	Canada. Ontario OELs
		TWAEV	1.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWAEV	1 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	3.000000 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		STEV	3 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	1.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		STEL	3.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		STEL	3 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Data origin	Sigma-Aldrich (Millipore Sigma)
Respiratory	If work under the hood is not possible, or if the permissible levels are exceeded, use NIOSH cartridge respiratory protection, or an air-supplied respirator.
Gloves	Gloves resistant to acidic corrosive materials. Suggested material: Nitrile. Neoprene. Butyl. The type, thickness and length of the glove must be chosen according to the use, the concentration of the product, as well as the duration of use. Replace gloves regularly for better protection.
Eyes	Safety goggles with safety shutters.
Shoes	Use safety shoes.
Clothes	Labcoat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Engineering control	Use fan. Recirculation is prohibited. 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

Physical state	Liquid.
Color	Colorless, Viscous.
Odour	Odorless.
Odour threshold	Data not available.
Melting point and freezing point	41.1 °C (H3PO4).
Boiling point	296.5 °C (H3PO4)-
Flammability	No.
Lower flammable / Explosive limit	Data not available.
Upper flammable / Explosive limit	Data not available.
Flash point	Data not available.
Auto-ignition temperature	Data not available.
Decomposition temperature	Data not available.
pH	<1 @1%.
Kinematic viscosity	Data not available.
Solubility	Miscible with water in all proportions.
Partition coefficient water/n-octanol	Data not available.
Vapour pressure	2.933 - 4 Pa @ 20 - 25 °C (H3PO4).
Relative density	1.685 (H3PO4 85%)g/ml à 25°C
Vapour density	Data not available.
Particle characteristics	Data not applicable.

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Acid product, reacts strongly with strong bases.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions to avoid	Avoid moisture. Avoid contact with incompatible materials and extreme temperatures. Avoid freezing.
Incompatible materials	The product releases explosive hydrogen gas when it reacts with: Chlorides. Stainless steel. Violent reaction with: Sodium borohydride. Exothermic reactions with: Aldehydes. Amines. Alcohols. Glycols. Azo compounds. Carbamates. Esters. Strong bases. Phenols. Cresols. Ketones. Organophosphates. Epoxides. Explosives. Combustible materials. Unsaturated halides. Organic peroxides. Can form flammable gases with: Sulfides. Cyanides. Aldehydes. Can form toxic vapors with: Cyanides. Sulfides. Fluoride. Organic peroxides. Halogenated organics. Can form an explosive mixture with: Nitromethane.
Hazardous decomposition products	Phosphorus oxides. Phosphine.

SECTION 11 - TOXICOLOGICAL INFORMATION

PHOSPHORIC ACID 85%

Routes of exposure	Ingestion, inhalation, skin and eye contact.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Causes burns to the eyes.
- Skin	Causes skin burns. Irritation. Dermatitis.
- Inhalation	Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Cough. Shortness of breath. Headaches. Confusion. Pulmonary edema. Chemical bronchitis.
Acute toxicity (Ingestion)	Nausea and vomiting. Diarrhea. Lung lesions. Intense pain in the mouth. Intense pain in the chest. Intense pain in the abdomen. Cough. Respiratory collapse.
Chronic exposure effects / symptoms	The product is extremely destructive to the tissues of the mucous membranes, upper respiratory tract, eyes, and skin. Burning sensation. Cough. Asthmatic. Laryngitis. Respiratory failure. Convulsions. Laryngeal edema. Bronchial edema. Pulmonary congestion. Pulmonary edema. Dermatitis. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 1530 mg/kg. LD50 Dermal - Rabbit - 2740 mg/kg.
CL50 (specify species and route of entry)	LC50 inhalation-Rabbit-1h- 1.689 mg/L.

SECTION 12 - ECOLOGICAL INFORMATION

PHOSPHORIC ACID 85%

Ecotoxicity	Data not available.
Persistence and degradability	Data not available.
Bioaccumulative potential	Data not available.
Mobility in soil	Data not available.
Other adverse effects	Data not available.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Method	Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company.
Contaminated Packaging	Dispose of as unused product.

SECTION 14 - TRANSPORT INFORMATION

UN Number	1805
UN Proper shipping name	ACIDE PHOSPHORIQUE EN SOLUTION
Transport hazard class(es)	Matières corrosives 8
Packing group	III
Limited quantity index	5 L
ERAP Index	-
Special precautions	-

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA

- Skin corrosion/irritation - Skin corrosion - category 1B
- Serious eye damage/eye irritation - Eye irritation - category 1
- Corrosive to metals - category 1
- Acute toxicity - Oral - category 4

SECTION 16 - OTHER INFORMATION

CNESST: Commission des normes, de l'équité et de la santé et sécurité au travail
NIH: National institute of health (U.S. Naltional Library of Medecine)
ECHA: Agence Européenne de Chimie
ACGIH : American Conference of Governmental Industrial Hygienists
AIHA : American Industrial Hygiene Association
VECD: Valeur d'exposition courte durée
VEMP: Valeur d'exposition moyenne pondérée
CMRG : Chemical Manufacturer's Recommended Guidelines
OSHA : United States Department of Labor - Occupational Safety and Health Administration
TLV : Threshold limit value
TWA: Time-Weighted-Average
STEL: Short Term Exposure Limit
CEIL: Ceiling
RSST: Règlement sur la santé et sécurité au travail (Québec)
INRS: l'Institut national de recherche et de sécurité pour la prévention des accidents du travail et des maladies professionnelles (France)

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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