



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

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier PH 9 BUFFER SOLUTION		Product Use Laboratory use	
Chemical formula -		Product code TS-0009	Molar weight
Chemical name / Commercial name / Synonymous Buffer pH 9			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
Postal code G1C 7B7	Internet www.labmat.com	Phone number 418-660-8666 / 800-890-8666	
Emergency phone	CANUTEC: 613-996-6666	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 3/15/2023	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

### SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Reproductive toxicity category 1B
Signal Word	DANGER
Hazards statements (H)	H360 May damage fertility or the unborn child.
Precautionary statements (P)	P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P280 Wear protective gloves/protective clothing/eye protection/face protection. P308 + P313 IF exposed or concerned: Get medical advice/attention. 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)
	<b>Health</b> 1 <b>Fire</b> 0 <b>Reactivity</b> 0 <b>Special danger</b>

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Chlorure de potassium	7447-40-7	0.4
Acide borique	10043-35-3	0.3
Hydroxyde de sodium	1310-73-2	0.1
E.D.T.A. tétrasodique	64-02-8	0.03
Eau	7732-18-5	Balance

## 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, give water to drink. Never give anything by mouth to an unconscious person. Consult a physician.
<b>Most important symptoms and effects (acute and delayed)</b>	To our knowledge, the chemical, physical and toxicological properties have not been fully investigated. 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>	Not flammable or combustible.
<b>Suitable extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Unsuitable extinguishing media</b>	Not applicable.
<b>Hazardous combustion products</b>	Hazardous combustion products formed under fire conditions: Carbon oxides. - Borane/boron oxides, Sodium oxides. - Potassium oxides. Nitrogen oxides (NO <sub>x</sub> ). To our knowledge, the products of combustion and decomposition have not been fully studied.
<b>Special fire and explosion hazards</b>	When concentrated, the product reacts according to the following characteristics: May react violently with incompatible products (Ref Section 10). To our knowledge, the product has not been fully evaluated.
<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 / Personal precautions, protective equipment</b>	Evacuate personnel to safe areas. Absorb the product with sand or vermiculite. Dilute residues with water, clean and rinse. Ensure a good ventilation of the premises. Dispose of residues in a container for disposal of hazardous materials. When handling, wear suitable safety equipment. Use breathing apparatus if necessary. Do not let product enter drains.
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## SECTION 07 - HANDLING AND STORAGE

<b>Conditions for safe storage</b>	Store in a cool, dry place. Keep container tightly closed and store away from heat, air, moisture and incompatible products. Protect from light and sunlight.
<b>Methods of handling</b>	Ensure good ventilation. Always open containers slowly to allow any excess pressure to vent. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14)

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Sodium hydroxide	1310-73-2	C	2.000000 mg/m <sup>3</sup>	Canada. British Columbia OEL
		CEV	2.000000 mg/m <sup>3</sup>	Canada. Ontario OELs
		(c)	2.000000 mg/m <sup>3</sup>	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			
		C	2.000000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		C	2 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Components	No.-CAS	Value	Control parameters	Basis
Boric acid	10043-35-3	TWA	2.000000 mg/m <sup>3</sup>	Canada. British Columbia OEL
		STEL	6.000000 mg/m <sup>3</sup>	Canada. British Columbia OEL
		No data available		Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		No data available		Canada. Ontario OELs
		No data available		Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Potassium chloride	7447-40-7	TLV	Poussières totales : 10 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
EDTA tetrasodium	64-02-8	No data available		This product does not contain any hazardous substances with Occupational Exposure Limits established by Area Specific Regulators (Quebec, Ontario, British Columbia, Alberta).

<b>Data source</b>	Sigma-Aldrich (Millipore Sigma) CNEST
<b>Ventilation</b>	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.
<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

Physical state	Liquid.
Appearance	incolore-
Odour	inodore.
Odour threshold	Data not available
pH	9.0.
Melting point / Freezing point	~0°C
Initial boiling point	~100°C
Boiling range	Data not available
Flash point	Data not available
Evaporation rate	Data not available
Flammability	No
Lower flammable / Explosive limit	Data not available
Upper flammable / Explosive limit	Data not available
Vapour pressure	Data not available
Solubility	Soluble dans l'eau..
Vapour density	0.7-
Relative density	1.00g/ml
Partition coefficient water/n-octanol	Data not available
Auto-ignition temperature	Data not available
Decomposition temperature	Data not available
Viscosity	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

Reactivity	Basic product, reacts violently with strong acids.
Chemical stability	Air sensitive.
Possibility of hazardous reactions	May react violently with incompatible substances.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	Avoid excessive heat. Exposure to the air.
Incompatible material	When pure, the products react with the following products: Acid anhydrides, alkali carbonates and hydroxides, metallic potassium and moisture. Strong acids. Strong oxidizing agents, metals. Strong bases. Organic materials. Halogens. To our knowledge, the product has not been fully evaluated.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Carbon oxides, Nitrogen oxides (NOx). - Potassium oxides. - Borane/boron oxides, Sodium oxides. To our knowledge, the products of decomposition have not been fully studied.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### POTASSIUM CHLORIDE

Routes of exposure	Ingestion.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	May cause eye irritation. May cause inflammation of the conjunctiva.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, cough, dyspnea, headache, dizziness, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Gastrointestinal disorders, blood disorders, cramps, diarrhea, headache, dizziness, salivation, cardiac arrhythmia, nausea and vomiting.
Chronic exposure effects / symptoms	Burning sensation, conjunctivitis, nervous disorders, cough, dyspnea, headache, dizziness, tearing, irritability, tiredness, nausea and vomiting. hyperkalemia.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 3020 mg/kg. LD50 Dermal: Data not available.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

## BORIC ACID

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Irritation and may cause inflammation of the conjunctiva.
<b>- Skin</b>	Irritation and dermatitis.
<b>- Inhalation</b>	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, dizziness, weakness, nausea and vomiting. Acute inhalation of boric acid may result in cyanosis characterized by a blue-gray coloring of the skin and lips caused by lack of oxygen.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Abdominal pain, kidney damage, cramps, diarrhea, headache, dizziness, sweating, salivation, erythema, nausea and vomiting, tachycardia, cyanosis, delirium, convulsions, coma and can lead to death. Ingesting 5 to 20 grams can be fatal in humans.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, nervous disorders, chest pain, cough, dyspnea, headache, dizziness, confusion, irritability, sweating, salivation, fatigue, erythema, nausea and vomiting. Chronic exposure to boric acid can cause borism, which is characterized by gastric disturbances and dry skin with rashes.
<b>DL50 (specify species and route of entry)</b>	2660 mg/kg.
<b>CL50 (specify species and route of entry)</b>	Data not available.

## SODIUM HYDROXIDE

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
<b>- Skin</b>	May be harmful if absorbed through skin. Causes skin burns.
<b>- Inhalation</b>	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Acute toxicity (Ingestion)</b>	Corrosion of the digestive tract, bloody vomiting with mucous membrane fragments, diarrhea, inflammation of the larynx and possibility of oesophageal and gastric perforation, death.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, lung and eye damage, nerve disorders, chest pain, cough, dyspnea, laryngitis, headache, dizziness, confusion, irritability, sweating, salivation, tearing, fatigue, alopecia, loss weight loss and loss of appetite, seizures, nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	Oral rat: 140mg/kg Dermal rabbit: 1350mg/kg
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Data not available.

## E.D.T.A. (TETRASODIUM) (ANHYDROUS)

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Irritation and tearing.
<b>- Skin</b>	Irritation.
<b>- Inhalation</b>	Irritation of the mucous membranes and respiratory tract. Nervous disorders, cough, dyspnea, headache, dizziness, nausea and vomiting.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, nervous disorders, chest pain, cough, dyspnea, headache, dizziness, tiredness, nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 1780 mg/kg. LD50 Dermal - Data not available.
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Data not available.

## SUMMARY

Acute exposure effects / Symptoms:	By exposure routes below.
Ingestion	To our knowledge, the product has not been fully evaluated
Inhalation	To our knowledge, the product has not been fully evaluated
Skin	To our knowledge, the product has not been fully evaluated
Eyes	To our knowledge, the product has not been fully evaluated
Chronic exposure effects / Symptoms:	To our knowledge, the product has not been fully evaluated
ETA Mix (Estimated Acute Toxicity)	LD50 Oral: > 5000 mg/kg - Rat LD50 Dermal: > 5000 mg/kg - Rabbit LC50 Inhalation: >100 mg/L - 4h - Rat

## SECTION 12 - ECOLOGICAL INFORMATION

<b>Ecotoxicity</b>	Sodium hydroxide: Toxicity to fish: LC50 - Gambusia affinis (Mosquito fish) - 125 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: CL50 - Oncorhynchus mykiss (Truite arc-en-ciel) - 45.4 mg/l - 96 h Immobilisation CE50 - Immobilization EC50 - Daphnia - 40.38 mg/l - 48 h. Boric acid: Toxicity to fish: LC50: Ptychocheilus lucius - 279 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 133 mg/l - 48 h LC50 - Daphnia magna (Water flea) - 53.2 mg/l - 21 d Potassium chloride. Toxicity to fish LC50 - Pimephales promelas - 880 mg/l - 96 h Mortality NOEC - Pimephales promelas - 500 mg/l - 7 d Mortality LOEC - Pimephales promelas - 1,000 mg/l - 7 d Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - > 440 mg/l - 48 h. E.D.T.A. Tetrasodium CE50 - algae and cyanobacteria 2.77 - 1000 mg/l - 72 h
<b>Persistence and degradability</b>	Data not available.
<b>Bioaccumulative potential</b>	Data not available.
<b>Mobility in soil</b>	Data not available.
<b>Other adverse effects</b>	Data not available.

## 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>	N/R
<b>UN Proper shipping name</b>	
<b>Transport hazard class(es)</b>	
<b>Packing group</b>	
<b>Limited quantity index</b>	
<b>ERAP Index</b>	
<b>Special precautions</b>	

## SECTION 15 - REGULATORY INFORMATION

<b>WHIMS CANADA</b>	Reproductive toxicity category 1B
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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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