



Centre Anti-Poison pour le Québec: (800) 463-5060

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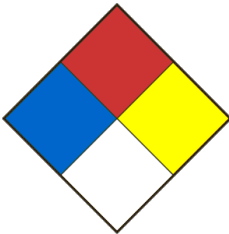
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SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier NESSLER'S REAGENT		Product Use Laboratory use	
Chemical formula K ₂ Hgl ₄ / NaOH		Product code NS-0104	Molar weight 786,4
Chemical name / Commercial name / Synonymous Réactif de Nessler; Nessler Reagent; Iodure mercurique de potassium; Tetraiodomercurate de potassium; MERCURATE(2-), TETRAIODO-, DIPOASSIUM, (T-4)-; MERCURIC POTASSIUM IODIDE; POTASSIUM IODOMERCURATE; Potassium tetraiodomercurate.			
Supplier's name Laboratoire MAT		Address-Street 610, Adanac Street	
City Québec		Province Québec	
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Emergency phone	CANUTEC: 613-996-6666 CENTRE ANTI-POISON DU QUÉBEC 800-463-5060		
Date SDS 8/20/2020	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Serious eye damage/eye irritation - Serious eye damage category 1 Specific Target Organ Toxicity - Repeated exposure category 1 Acute toxicity - Oral category 3 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 3 Skin corrosion/irritation - Skin corrosion category 1
Signal Word	DANGER
Hazards statements (H)	H301 Toxic if swallowed. H311 Toxic in contact with skin. H314 Causes severe skin burns and eye damage. H318 Causes serious eye damage. H331 Toxic if inhaled. H372 Causes damage to organs through prolonged or repeated exposure.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapours / spray. P261 Avoid breathing dust / fume / gas / mist / vapours / spray. 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. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P302 + P352 IF ON SKIN: Wash with plenty of soap and water. P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 Immediately call a POISON CENTER or doctor/physician. P311 Call a POISON CENTER or doctor/physician. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P314 Get medical advice/attention if you feel unwell. P321 Specific treatment (see section 4 of the SDS and on this label). P330 Rinse mouth. P361 + P364 Take off immediately all contaminated clothing and wash it before reuse. P363 Wash contaminated clothing before reuse. P403 + P233 Store in a well-ventilated place. Keep container tightly closed. 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=Significant; 4=Extreme)
	Health 3 Fire 0 Reactivity 1 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Hydroxyde de sodium	1310-73-2	13-15
Iodure de mercure(II)	7774-29-0	8-9
Iodure de potassium	7681-11-0	6-7
Eau	7732-18-5	70-72

SECTION 04 - FIRST AID MEASURES

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 soiled 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. Never give anything by mouth to an unconscious person. Consult a physician.
Most important symptoms and effects (acute and delayed)	Ref. section 11.
Immediate medical attention and special treatment, if necessary	In case of medical consultation, keep this sheet available.
General advice	Move out of dangerous area. Show this safety data sheet to the doctor in attendance.

SECTION 05 - FIREFIGHTING MEASURES

Flammability	No
Ignition conditions	Not flammable or combustible.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion / decomposition products	Hazardous decomposition products formed under fire conditions. Mercury/mercury oxides. - Hydrogen iodide, Potassium oxides - Sodium oxides.
Special fire and explosion hazards	When concentrated, the product reacts according to the following characteristics: Violent reactions on contact with chlorine trifluoride. Potassium iodide may react violently with the following products: bromine pentafluoride, charcoal + ozone, chlorine trifluoride and disazo salts. 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

Methods and materials for containment and cleaning up / Personnel precautions, protective equipment	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. Avoid breathing vapours, mist or gas. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Protect from sunlight and light. Keep container tightly closed in a dry and well-ventilated place. Keep container tightly closed and store away from moisture, light, sunlight and incompatible products.
Methods of handling	Always open containers slowly to allow any excess pressure to vent. Avoid breathing vapors, spray mists or gases. Provide appropriate exhaust ventilation at places where dust or vapor is formed. 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	No.-CAS	Control parameters	Value	Basis
Mercury diiodide	7774-29-0	TWA	0.025 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks: Substance may be readily absorbed through intact skin				
		TWAV	0.025 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Remarks: Skin (percutaneous)				
		TWA	0.025 mg/m3	Canada. British Columbia OEL
Remarks: Adverse reproductive effect. Contributes significantly to the overall exposure by the skin route.				
		TWAEV	0.025 mg/m3	Canada. Occupational Health and Safety Act - Part 11: Exposure Values for Acrylonitrile, Benzene and Mercury
Remarks: Skin. The values listed in this part apply to workplaces to which the designated substance regulation does not apply.				
		TWA	0.025 mg/m3	Canada. Ontario OELs
Remarks: Skin. Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.				
		TWA	0.025 mg/m3	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks: Substance may be readily absorbed through intact skin				
		TWAEV	0.025 mg/m3	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
Remarks: Skin (percutaneous)				
		-	-	Canada. British Columbia OEL
Remarks: No British Columbia exposure limit at this time				
		TWA	0.025 mg/m3	Canada. British Columbia OEL
Remarks: Adverse reproductive effect. Contributes significantly to the overall exposure by the skin route.				
		TWA	0.025 mg/m3	Canada. Ontario OELs
Remarks: Skin. Denotes a chemical agent listed in Table 1 of Ontario Regulation 490/09 (Designated Substances) made under the Act. See clause 2 (2) (a) of this Regulation.				

Components	CAS-No.	Value	Control parameters	Basis
Potassium iodide	7681-11-0	No data available	TLV, TWA, STEL	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		No data available	TLV, TWA, STEL	Canada. British Columbia OEL
		No data available	TLV, TWA, STEL	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants

Components	CAS-No.	Value	Control	Basis
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			parameters	
Sodium hydroxide	1310-73-2	C	2.000000 mg/m3	Canada. British Columbia OEL
		CEV	2.000000 mg/m3	Canada. Ontario OELs
		(c)	2.000000 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			
		C	2.000000 mg/m3	USA. ACGIH Threshold Limit Values (TLV)
		C	2 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Data source	Sigma-Aldrich.
Ventilation	Fan.
Respiratory	If work under the hood is not possible, or if the permissible levels are exceeded, use a mechanical filter / cartridge against NIOSH vapors or a respirator with air supply.
Gloves	Handle with gloves.
Eyes	Safety goggles with safety shutters.
Shoes	Safety shoes.
Clothing	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	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	liquide jaune.
Odour	inodore.
Odour threshold	Data not available
pH	12-13.
Melting point / Freezing point	Data not available
Initial boiling point	Data not available
Boiling range	Approx. 102-115°C
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	Data not available
Relative density	1.097-1.27g/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	Non-reactive under normal conditions.
Chemical stability	May decompose on exposure to air and moisture. Stable under recommended storage conditions.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions of instability (Including sensitivity to shock / static discharge / vibration)	This product may decompose if exposed to light or by the combined action of air and moisture.
Incompatible material	When pure, the products react with the following products: Strong reducing agents, Nickel, Strong acids, and its alloys, Steel (includes all types and surface treatments), Aluminum, Alkali metals, Brass, Magnesium, Zinc, Cadmium, Copper. Organic materials. Pewter - tin oxides. Strong oxidizers. Formates, sulfites, phosphates, albumin, ammonia, gelatin, carbonates, hypophosphites, sulfides, alkalis, alkaloid salts, lime water, strong acids, chlorinated hydrocarbons, acetone, metals such as aluminum, tin and zinc.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. Toxic vapors of hydrogen iodide. - Potassium oxides. Mercury/mercury oxides. - Sodium oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

MERCURY(II) IODIDE

Routes of exposure	Inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and may result in inflammation of the conjunctiva.
- Skin	Irritation and dermatitis.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, dizziness, tremors, fever, convulsions, nausea and vomiting. Neurotoxic effects.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Nervous disorders, kidney damage, abdominal pain, cramps, headache, dizziness, tremors, sweating, salivation, nausea and vomiting, convulsions, stupor, circulatory collapse, unconsciousness, coma and can lead to death.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, nervous disorders, chest pain, cough, dyspnea, laryngitis, gingivitis, headache, dizziness, confusion, irritability, impaired concentration, fatigue, fever, weight loss and loss of appetite, convulsions, nausea and vomiting. Proven risk of serious effects on organs as a result of repeated exposure or prolonged exposure. Target organs: Kidney. Eyes. Gastrointestinal system. Thyroid. Disorders of the thyroid can lead to disorders of the skin, cardiovascular system, respiratory system, kidneys, digestive system, liver, blood, neuromuscular system, central nervous system, skeleton, reproductive system and to the organs of the endocrine system. Neurotoxic effects.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 18 mg/kg. LD50 Dermal - Rat - 75 mg/kg.
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

POTASSIUM IODIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Irritation and burns that may cause permanent eye damage.
- Skin	Irritation and dermatitis. May cause an allergic and inflammatory reaction of the skin in the form of erythematous or vesicular lesions.
- Inhalation	Irritation of the mucous membranes and respiratory tract. Nervous disorders, respiratory allergy, pain in chest, cough, dyspnea, headache, dizziness, fever, nausea and vomiting.
Acute toxicity (Ingestion)	Irritation of the mucous membranes. Target organ: thyroid. Abdominal pain, thyroid disorders, cramps, diarrhea, headache, dizziness, sweating, salivation, fever, convulsions, nausea and vomiting.
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, respiratory and skin allergies, pain in the chest, cough, dyspnoea, laryngitis, headache, vertigo, tearing, confusion, irritability, erythema, fatigue, fever, anemia, weight loss and loss of appetite, seizures, nausea and vomiting. Prolonged exposure may cause reproductive abnormalities in humans.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2779 mg/kg LD50 Dermal - Rat - 2000 mg/kg
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

SODIUM HYDROXIDE

Routes of exposure	Ingestion, inhalation, skin and eyes.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.
- Skin	May be harmful if absorbed through skin. Causes skin burns.
- Inhalation	May be harmful if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Acute toxicity (Ingestion)	Corrosion of the digestive tract, bloody vomiting with mucous membrane fragments, diarrhea, inflammation of the larynx and possibility of oesophageal and gastric perforation, death.
Chronic exposure effects / symptoms	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.
DL50 (specify species and route of entry)	Oral rat: 140mg/kg Dermal rabbit: 1350mg/kg
CL50 (specify species and route of entry)	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: 163 mg/kg - Rat LD50 Dermal: 737 mg/kg - Undefined species LC50 Inhalation: No data available

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Potassium iodide: Toxicity to fish: Static test: LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96.0 h. 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.
Persistence and degradability	Data not available.
Bioaccumulative potential	Data not available.
Mobility in soil	Probable mobility due to its solubility in water.
Other adverse effects	Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

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

SECTION 14 - TRANSPORT INFORMATION

UN Number	3289
UN Proper shipping name	LIQUIDE INORGANIQUE TOXIQUE, CORROSIF, N.S.A.
Transport hazard class(es)	6.1 Toxic substances 8 Corrosive substances
Packing group	II
Limited quantity index	0,1L
ERAP Index	-
Special precautions	16 (NaOH/ tétraiodomercurate de potassium)

SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Serious eye damage/eye irritation - Serious eye damage category 1 Specific Target Organ Toxicity - Repeated exposure category 1 Acute toxicity - Oral category 3 Acute toxicity - Dermal category 3 Acute toxicity - Inhalation category 3 Skin corrosion/irritation - Skin corrosion category 1
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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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