



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

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier BENEDICT'S REAGENT		Product Use Laboratory use	
Chemical formula -		Product code BS-0100	Molar weight
Chemical name / Commercial name / Synonymous SOLUTION DE BENEDICT; RÉACTIF DE BENEDICT; BENEDICT'S SOLUTION QUALITATIVE			
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 9/13/2019	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

### SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Serious eye damage/eye irritation - Eye irritation category 2
Signal Word	WARNING
Hazards statements (H)	H319 Causes serious eye irritation.
Precautionary statements (P)	P264 Wash the areas of the body that have been in contact with the product after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical advice/attention.
PICTOGRAMS	
Other dangers	NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)
	Health 1 Fire 0 Reactivity 0 Special danger

### SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%)
Citrate de sodium tribasique dihydrate	6132-04-3	13
Carbonate de sodium anhydre	497-19-8	8
Sulfate cuivrique pentahydrate	7758-99-8	1
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>	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 / decomposition products</b>	Hazardous decomposition products formed under fire conditions. - Sodium oxides. - Sulphur oxides Carbon oxides. - Copper oxides
<b>Special fire and explosion hazards</b>	When concentrated, the product reacts according to the following characteristics: Anhydrous sodium carbonate may react violently with sulfuric acid, atomized aluminum, fluorine, lithium and phosphorus pentoxide. This product can react in the presence of acetylene and form acetylides (explosive substances). Violent reactions with hydroxylamine and magnesium powder. May react violently with incompatible products (Ref Section 10).
<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, moisture, and incompatible products. Protect from light and sunlight.
<b>Methods of handling</b>	Avoid breathing vapors, spray mists or gases. 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 Citric acid	
SODIUM CITRATE TRIBASIC DIHYDRATE	6132-04-3	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 parameters	Basis
Sodium carbonate (Anhydrous)	497-19-8	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 parameters	Basis
Copper sulphate pentahydrate	7758-99-8	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

<b>Ventilation</b>	Use 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

<b>Physical state</b>	Liquid.
<b>Appearance</b>	Liquide bleu turquoise translucide.
<b>Odour</b>	Donnée non disponible.
<b>Odour threshold</b>	Data not available
<b>pH</b>	10-11.
<b>Melting point / Freezing point</b>	Data not available
<b>Initial boiling point</b>	Data not available
<b>Boiling range</b>	Data not available
<b>Flash point</b>	Data not available
<b>Evaporation rate</b>	Data not available
<b>Flammability</b>	No
<b>Lower flammable / Explosive limit</b>	Data not available
<b>Upper flammable / Explosive limit</b>	Data not available
<b>Vapour pressure</b>	Data not available
<b>Solubility</b>	Très soluble dans l'eau..
<b>Vapour density</b>	Data not available
<b>Relative density</b>	1,175g/ml
<b>Partition coefficient water/n-octanol</b>	Data not available
<b>Auto-ignition temperature</b>	Data not available
<b>Decomposition temperature</b>	Data not available
<b>Viscosity</b>	Data not available

## SECTION 10 - STABILITY AND REACTIVITY

<b>Reactivity</b>	Non-reactive under normal conditions.
<b>Chemical stability</b>	Stable under recommended storage conditions.
<b>Possibility of hazardous reactions</b>	Stable under normal conditions.
<b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b>	Avoid contact with incompatible materials and extreme temperatures.
<b>Incompatible material</b>	When pure, the products react with the following products: Strong oxidizing agents, Strong acids. Strong reducing agents (potassium, sodium, metal hydrides), acetylene, corroded steel, hydroxylamine, magnesium, fine metal powders, heat and moisture. Metallic powders, the anhydrous copper (II) sulphate reacts violently with hydroxylamine and magnesium.
<b>Hazardous decomposition products</b>	Hazardous decomposition products formed under fire conditions. Toxic vapors of carbon monoxide and dioxide. - Sodium oxides. - Copper oxides - Sulphur oxides.

## SODIUM CITRATE (TRIBASIC)

<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 and dermatitis.
<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. Gastrointestinal disorders, cramps, diarrhea, headache, dizziness, convulsions, nausea and vomiting.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, nervous disorders, chest pain, cough, dyspnea, headache, dizziness, irritability, tiredness, nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	DL50 Oral - Mouse - 5400 mg/kg LD50 Dermal - Rat - 2000mg/kg.
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Data not available.

## SODIUM CARBONATE (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 and dermatitis. Prolonged skin contact may cause an allergic reaction characterized mainly by erythematous lesions.
<b>- Inhalation</b>	Irritation of the mucous membranes and respiratory tract. Nervous disorders, respiratory allergy, cough, dyspnea, headache, dizziness, watery eyes, nausea and vomiting.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Gastrointestinal disorders, cramps, diarrhea, headache, dizziness, convulsions, nausea and vomiting.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, nervous disorders, respiratory and skin allergies, pain in the chest, cough, dyspnea, headache, vertigo, tearing, confusion, irritability, erythema, fatigue, nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - Rat - 2,800 mg/kg. LD50 Dermal - Rabbit - 2000 mg/kg
<b>CL50 (specify species and route of entry)</b>	LC50 - Inhalation - Rat - 2h - 2300 mg/m <sup>3</sup>

## COPPER(II) SULFATE (PENTAHYDRATE)

<b>Routes of exposure</b>	Ingestion, inhalation, skin and eyes.
<b>Acute exposition effects / symptoms:</b>	By exposure route below.
<b>- Eyes</b>	Severe irritation may result in copper deposition on cornea and opacification of ocular tissue (Wilson's disease).
<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, tearing, sweating, salivation, nausea and vomiting.
<b>Acute toxicity (Ingestion)</b>	Irritation of the mucous membranes. Abdominal pain, kidney damage, cramps, diarrhea, headache, dizziness, sweating, salivation, nausea and vomiting, convulsions, tachycardia, hypotension, coma and can lead to death.
<b>Chronic exposure effects / symptoms</b>	Burning sensation, dermatitis, conjunctivitis, kidney and lung damage, nerve disorders, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, tearing, metallic taste in the mouth, sweating, salivation, fatigue, fever loss of weight and loss of appetite, seizures, nausea and vomiting.
<b>DL50 (specify species and route of entry)</b>	LD50 Oral - rat - 482 mg/kg Remarks: anhydrous. LD50 Dermal - rat -> 2,000 mg / kg Notes: Anhydrous
<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 - Rat LC50 Inhalation: No data available

## SECTION 12 - ECOLOGICAL INFORMATION

Available ecological information	No
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## 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	N/R
UN Proper shipping name	
Transport hazard class(es)	
Packing group	
Limited quantity index	
ERAP Index	
Special precautions	

## SECTION 15 - REGULATORY INFORMATION

WHIMS CANADA	Serious eye damage/eye irritation - Eye irritation category 2
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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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