



SAFETY DATA SHEET

SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

Product Identifier GRAFF DYE "C" (SOLUTION D)		Product Use Laboratory use	
Chemical formula -		Product code GF-0004	Molar weight
Chemical name / Commercial name / Synonymous -			
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 Lun-Ven 8h-16h	
Emergency phone	418-660-8666 Lun-Ven 8h-16h	CENTRE ANTI-POISON DU QUÉBEC 800-463-5060	
Date SDS 4/1/2024	SDS Prepared by Laboratoire MAT	E-Mail labmat@labmat.com	

SECTION 02 - HAZARDS IDENTIFICATION

Classification WHIMS / GHS	Specific Target Organ Toxicity - Repeated exposure category 1
Signal Word	DANGER
Hazards statements (H)	H372 Causes damage to organs through prolonged or repeated exposure.
Precautionary statements (P)	P260 Do not breathe dust / fume / gas / mist / vapors / 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. P314 Get medical advice/attention if you feel unwell. 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 2 Fire 0 Reactivity 0 Special danger

SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingrédients (Dénomination chimique / synonymes)	Numéro CAS et tout identificateur unique	Concentration (%P/P)
Iode	7553-56-2	1
Iodure de potassium	7681-11-0	2
Eau	7732-18-5	Balance

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)	Main symptoms of high exposure: The product is a material corrosive. Skin, eye and respiratory system irritation. Tremors. Headaches. Diarrhea. Cardiac arrhythmia. Pulmonary edema. Sleep disorder. Pneumonia. Breathing difficulties. Rhinitis. Respiratory sensitizer. 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
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media	Data not available.
Hazardous combustion products	Hazardous combustion products formed under fire conditions: - Hydrogen iodide. Iodine vapors. - Potassium oxides.
Specific hazards of the dangerous product	When concentrated, the product reacts according to the following characteristics: Iodine can form explosive compounds sensitive to shock or heat in contact with strong reducing agents. Mixing iodine with antimony and / or ammonia can cause an explosion. Reacts violently with: acetaldehyde, acetylene, acetylides, aluminum + diethyl ether, aluminum-titanium alloys + heat, ammonium hydroxide, antimony, silver azide, bromine pentafluoride, carbides, cesium oxide, chlorine and chlorine trifluoride, fluorine and fluorine oxide, reactive metals (aluminum powder, magnesium, potassium, sodium, zinc), phosphorus, sodium hydride and sodium phosphinate. 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. Do not let product enter drains.
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SECTION 07 - HANDLING AND STORAGE

Conditions for safe storage	Store in a cool, dry place. Keep container tightly closed and store away from heat, moisture, and incompatible products. Keep container tightly closed in a dry and well-ventilated place. Air, light, and moisture sensitive. Protect from the sun's rays.
Methods of handling	Ensure good ventilation. Do not use metal utensils to handle iodine as it attacks steel. Bottle in glass containers only. Avoid contact with the skin, eyes and clothes. Avoid ingestion and inhalation. Provide appropriate exhaust ventilation at places where dust or vapor is formed. This product stains a lot. 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
Iodine	7553-56-2	C	0.100000 ppm	Canada. British Columbia OEL
		CEV	0.100000 ppm 1.000000 mg/m ³	Canada. Ontario OELs
		(c)	0.100000 ppm 1.000000 mg/m ³	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	0.100000 ppm 1.000000 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
A substance which may not be recirculated in accordance with section 108				
		TWA	0.010000 ppm	Canada. British Columbia OEL
Vapour and aerosol.				
		STEL	0.100000 ppm	Canada. British Columbia OEL
Vapour and aerosol.				
		CEIL	0.100000 ppm 1.000000 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.010000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		TWA	0.010000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	0.100000 ppm	USA. ACGIH Threshold Limit Values (TLV)
		STEL	0.100000 ppm	USA. ACGIH Threshold Limit Values (TLV)
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

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	Brun-orange foncé-
Odour	âcre.
Odour threshold	Data not available
pH	~ 5.
Melting point / Freezing point	Data not available
Initial boiling point	Data not available
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	Data not available
Relative density	1.03g/ml (Théorique).
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	May react violently with incompatible substances.
Chemical stability	Stable under recommended storage conditions. May decompose on exposure to air and moisture. Sensitive to light.
Possibility of hazardous reactions	Stable under normal conditions.
Conditions to avoid, including static discharge, shock or vibration	Heat, flames and sparks. This product may decompose if exposed to light or by the combined action of air and moisture.
Incompatible materials	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. Pewter - tin oxides. Iodine reacts in contact with the following products: rubber, plastics, iron and ferrous salts, Sulfur compounds, antimony salts, arsenites, bromides, chlorides, iodides, thiocyanates, ferrous salts, hypophosphites, morphine salts, oils, creosote, phosphates, tannin, tartrates. Acetylene, acetaldehyde, strong oxidizers, strong reducers agents, ammonia, alcohols, acetylides, aluminum + diethyl ether, aluminum-titanium alloys + heat, ammonium hydroxide, antimony, silver azide, bromine pentafluoride, carbides, cesium oxide, chlorine and chlorine trifluoride, fluorine and fluorine oxide, metal powders and reactive metals (aluminum powder, magnesium, potassium, sodium, zinc, copper), phosphorus, sodium hydride and sodium phosphinate. The mixture of iodine, antimony and ammonia causes an explosion.
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Hydrogen iodide. Iodine vapors. - Potassium oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

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. Drowsiness. Respiratory sensitizer.
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. Mouth ache.
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. Target organs: Thyroid. It is found in breast milk in humans.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 2484 mg/kg. LD50 Dermal - Rat - 2000 mg/kg
CL50 (specify species and route of entry)	LC50 - Inhalation - Data not available.

IODINE

Routes of exposure	Ingestion, inhalation, skin contact.
Acute exposition effects / symptoms:	By exposure route below.
- Eyes	Severe irritation and burns that may cause permanent eye damage.
- Skin	Severe irritation and tissue burns. Repeated exposure may cause a skin reaction characterized mainly by erythematous lesions.
- Inhalation	Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death. Inhalation may cause disruption of the thyroid gland.
Acute toxicity (Ingestion)	Burns and ulcerations of the mouth, throat, esophagus and abdominal wall. Dysphagia, thyroid disorders, abdominal pain, cramps, diarrhea, melena, hematemesis, headache, dizziness, salivation, runny nose, parotitis, weakness, weight loss, convulsions, vascular collapse, unconsciousness, coma and can lead to death. Amounts of 2 to 3 g were fatal
Chronic exposure effects / symptoms	Burning sensation, dermatitis, conjunctivitis, cutaneous allergic reactions, thyroid disorders (disruption of hormonal secretion), nervous disorders, chest pain, cough, dyspnea, rhinitis, bronchitis, headache, vertigo, irritability, hypersensitivity, epiphora (excessive flow of tears), erythema, intense thirst, salivation, fatigue, weakness, weight loss and loss of appetite, seizures, nausea and vomiting. Prolonged exposure to this product is likely to cause embryotoxic effects in humans.
DL50 (specify species and route of entry)	LD50 Oral - Rat - 315 mg/kg. LD50 Dermal - Rabbit - 1425 mg/kg.
CL50 (specify species and route of entry)	LC50 Inhalation - Rat - 4h - > 4.588 mg / l Note: cough Respiratory condition

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: >5000 mg/kg -Oral Rat LD50: >5000 mg/kg -Dermal - Undefined species LC50: >100 mg/L- 4h - Inhalation Rat

SECTION 12 - ECOLOGICAL INFORMATION

Ecotoxicity	Iodine: Toxicity to fish: LC50 Oncorhynchus mykiss (rainbow trout) -1.7mg / l -96.0 h. Toxicity to daphnia and other aquatic invertebrates: CE 50-Daphnia magna (Great Daphnia) -0.2mg / l-48h Toxicity to algae: Growth inhibition EC50 - Desmodesmus subspicatus (green algae) - 0.13mg/L. Potassium iodide: Toxicity to fish: Static test: LC50 - Danio rerio (zebra fish) - > 100 mg/l - 96.0 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	Toxic 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 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	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	Specific Target Organ Toxicity - Repeated exposure 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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