

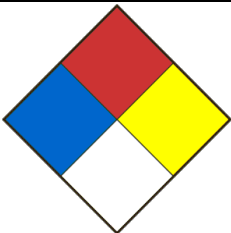


## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

|                                                   |                                                                       |                                             |                             |
|---------------------------------------------------|-----------------------------------------------------------------------|---------------------------------------------|-----------------------------|
| Product Identifier<br>GRAFF DYE "C" (SOLUTION C)  |                                                                       | Product Use<br>Laboratory use               |                             |
| Chemical formula<br>ZnCl <sub>2</sub>             |                                                                       | Product code<br>GF-0003                     | Molar weight<br>136,28      |
| Chemical name / Commercial name / Synonymous<br>- |                                                                       |                                             |                             |
| Supplier's name<br>Laboratoire MAT                |                                                                       | Address-Street<br>610, Adanac Street        |                             |
| City<br>Québec                                    |                                                                       | Province<br>Québec                          |                             |
| Postal code<br>G1C 7B7                            | Internet<br>www.labmat.com                                            | Phone number<br>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<br>4/1/2024                              | SDS Prepared by<br>Laboratoire MAT                                    |                                             | E-Mail<br>labmat@labmat.com |

## SECTION 02 - HAZARDS IDENTIFICATION

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |  |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>Classification WHIMS / GHS</b>                                                   | Serious eye damage/eye irritation - Serious eye damage category 1<br>Acute toxicity - Oral category 4<br>Skin corrosion/irritation - Skin corrosion category 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| <b>Signal Word</b>                                                                  | DANGER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |
| <b>Hazards statements (H)</b>                                                       | H302 Harmful if swallowed.<br>H314 Causes severe skin burns and eye damage.<br>H318 Causes serious eye damage.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |
| <b>Precautionary statements (P)</b>                                                 | P260 Do not breathe dust / fume / gas / mist / vapors / spray.<br>P264 Wash the areas of the body that have been in contact with the product after handling.<br>P270 Do not eat, drink or smoke when using this product.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection.<br>P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.<br>P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.<br>P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.<br>P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.<br>P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>P310 Immediately call a POISON CENTER or doctor/physician.<br>P321 Specific treatment (see section 4 of the SDS and on this label).<br>P330 Rinse mouth.<br>P363 Wash contaminated clothing before reuse.<br>P405 Store locked up.<br>P501 Dispose of contents and container in accordance with local, regional and national regulations, or contact a specialist waste disposal company. |  |
| <b>PICTOGRAMS</b>                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Other dangers</b>                                                                | NFPA (Risk: 0=No risk; 1=Slight; 2=Moderate; 3=Signifiant; 4=Extreme)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |  |
|  | <b>Health</b> 2<br><b>Fire</b> 0<br><b>Reactivity</b> 0<br><b>Special danger</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |  |

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingrédients (Dénomination chimique / synonymes) | Numéro CAS et tout identificateur unique | Concentration (%P/P) |
|-------------------------------------------------|------------------------------------------|----------------------|
| Chlorure de zinc                                | 7646-85-7                                | 55                   |

## 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. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Consult a physician.                                                                                                                                                        |
| <b>Most important symptoms and effects (acute and delayed)</b>         | Main symptoms of high exposure: Skin, eye and respiratory system irritation. Breathing difficulties. Pulmonary fibrosis. Fever. Cyanosis (blue to black coloring of the skin and nails). Cough. Tachypnea (abnormal increase in respiratory rate). Pulmonary edema. Pneumonia. Chest pain. 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>Suitable extinguishing media</b>                                  | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.                                                                                                                                                                                  |
| <b>Unsuitable extinguishing media</b>                                | Data not available.                                                                                                                                                                                                                                       |
| <b>Hazardous combustion products</b>                                 | Hazardous combustion products formed under fire conditions: - Zinc/zinc oxides. Hydrogen chloride gas.                                                                                                                                                    |
| <b>Specific hazards of the dangerous product</b>                     | Zinc chloride mixed with metal chlorides and powdered zinc may ignite. Risk of explosion on contact with metallic potassium. 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 / Personnel 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. Avoid breathing vapors, mist or gas. |
|------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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. Hygroscopic.                                                      |
| <b>Methods of handling</b>         | Always open containers slowly to allow any excess pressure to vent. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust or vapor is formed. |

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

| Composants    | No.-CAS                                                                                                                                                                           | Valeur | Paramètres de contrôle | Base                                                                                                                                    |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Zinc chloride | 7646-85-7                                                                                                                                                                         | TWA    | 1.000000<br>mg/m3      | Canada. LEP Colombie Britannique                                                                                                        |
|               |                                                                                                                                                                                   | STEL   | 2.000000<br>mg/m3      | Canada. LEP Colombie Britannique                                                                                                        |
|               |                                                                                                                                                                                   | TWA    | 1.000000<br>mg/m3      | Canada. Alberta, Code de santé et de sécurité au travail (tableau 2 : VLE)                                                              |
| Remarques     | La limite d'exposition professionnelle est basée sur les effets de l'irritation et son ajustement pour compenser les emplois du temps de travail inhabituels n'est pas nécessaire |        |                        |                                                                                                                                         |
|               |                                                                                                                                                                                   | STEL   | 2.000000<br>mg/m3      | Canada. Alberta, Code de santé et de sécurité au travail (tableau 2 : VLE)                                                              |
|               | La limite d'exposition professionnelle est basée sur les effets de l'irritation et son ajustement pour compenser les emplois du temps de travail inhabituels n'est pas nécessaire |        |                        |                                                                                                                                         |
|               |                                                                                                                                                                                   | TWA    | 1.000000<br>mg/m3      | Canada. LEP Colombie Britannique                                                                                                        |
|               |                                                                                                                                                                                   | STEL   | 2.000000<br>mg/m3      | Canada. LEP Colombie Britannique                                                                                                        |
|               |                                                                                                                                                                                   | VEMP   | 1.000000<br>mg/m3      | Québec. Règlement sur la santé et la sécurité du travail, Annexe 1 Partie 1: Valeurs d'exposition admissibles des contaminants de l'air |
|               |                                                                                                                                                                                   | TWA    | 1.000000<br>mg/m3      | Canada. Alberta, Code de santé et de sécurité au travail (tableau 2 : VLE)                                                              |
|               | La limite d'exposition professionnelle est basée sur les effets de l'irritation et son ajustement pour compenser les emplois du temps de travail inhabituels n'est pas nécessaire |        |                        |                                                                                                                                         |
|               |                                                                                                                                                                                   | STEL   | 2.000000<br>mg/m3      | Canada. Alberta, Code de santé et de sécurité au travail (tableau 2 : VLE)                                                              |
|               | La limite d'exposition professionnelle est basée sur les effets de l'irritation et son ajustement pour compenser les emplois du temps de travail inhabituels n'est pas nécessaire |        |                        |                                                                                                                                         |
|               |                                                                                                                                                                                   | VEMP   | 1.000000<br>mg/m3      | Québec. Règlement sur la santé et la sécurité du travail, Annexe 1 Partie 1: Valeurs d'exposition admissibles des contaminants de l'air |

|                            |                                                                                                                                                                                                |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data source</b>         | Sigma-Aldrich.                                                                                                                                                                                 |
| <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. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.                                     |
| <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                            | Liquide incolore-                                                                      |
| Odour                                 | Donnée non disponible.                                                                 |
| Odour threshold                       | Data not available                                                                     |
| pH                                    | Solution aqueuse = pH ~4-5.                                                            |
| 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                            | Très soluble dans l'eau ( 851 g/L ). Soluble dans l'alcool, l'acétone et la glycérine. |
| Vapour density                        | Data not available                                                                     |
| Relative density                      | 1.1 g/ml @20°C (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                                                          | Acid product, reacts strongly with strong bases. May react violently with incompatible substances.                              |
| Chemical stability                                                  | Stable under recommended storage conditions. Moisture sensitive.                                                                |
| Possibility of hazardous reactions                                  | May react violently with incompatible substances.                                                                               |
| Conditions to avoid, including static discharge, shock or vibration | This product becomes deliquescent if exposed to moisture                                                                        |
| Incompatible materials                                              | Strong oxidizing agents (nitric acid, perchloric acid, peroxides, chlorates and perchlorates), metallic potassium and moisture. |
| Hazardous decomposition products                                    | Hazardous decomposition products formed under fire conditions. Toxic vapors of hydrogen chloride. - Zinc/zinc oxides.           |

## SECTION 11 - TOXICOLOGICAL INFORMATION

### ZINC CHLORIDE

|                                           |                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Routes of exposure                        | Inhalation, skin and eyes.                                                                                                                                                                                                                                                                                    |
| Acute exposition effects / symptoms:      | By exposure route below.                                                                                                                                                                                                                                                                                      |
| - Eyes                                    | Severe irritation and burns that may cause permanent eye damage.                                                                                                                                                                                                                                              |
| - Skin                                    | May be harmful if absorbed through skin. Severe irritation and dermatitis. Intense dust exposure can lead to boils (furunculosis).                                                                                                                                                                            |
| - Inhalation                              | May be harmful if inhaled. The product is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Nervous disorders, chest pain, cough, dyspnea, headache, dizziness, fever, seizures, respiratory acidosis, bronchopneumonia, and pulmonary edema that may result in death. |
| Acute toxicity (Ingestion)                | Toxic if swallowed. Irritation of the mucous membranes. Burns in the mouth and throat, dysphagia, abdominal pain and leg cramps, diarrhea, headache, dizziness, cold sweat, hematuria, convulsions, hypotension, nausea and vomiting.                                                                         |
| Chronic exposure effects / symptoms       | Burning sensation, dermatitis, furunculosis, conjunctivitis, nervous disorders, lung damage, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, confusion, irritability, tachypnea, sweating, salivation, fatigue, fever, nausea and vomiting.                                                     |
| DL50 (specify species and route of entry) | LD50 Oral - Rat - 1100 mg/kg. DL50 Oral - Mouse - 1260 mg/kg. LD50 Dermal - Rat - 2000 mg/kg.                                                                                                                                                                                                                 |
| CL50 (specify species and route of entry) | LC50 - Inhalation - Rat - 1.975 mg/L air - 10 min.                                                                                                                                                                                                                                                            |

## 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 : 641 mg/kg - Rat<br>LD50 Dermal: 3666 mg/kg - Rat<br>LC50 Inhalation: 3620 mg/L- 10min - Rat |

## SECTION 12 - ECOLOGICAL INFORMATION

|                               |                                                                                                                                                                                                                                                                                                      |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity                   | Zinc chloride: Toxicity to fish: LC50: Cyprinus carpio (Carpe) - 0.4 - 2.2 mg/l - 96.0 h. Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 0.2 mg/l - 48 h Toxicity to algae: Inhibition of growth LOEC - Pseudokirchneriella subcapitata - 12.5 mg/l - 96 h |
| Persistence and degradability | Data not available.                                                                                                                                                                                                                                                                                  |
| Bioaccumulative potential     | Bioaccumulation Pimephales promelas (fathead minnow) - 63 d Bioconcentration factor (BCF): 21,000.                                                                                                                                                                                                   |
| Mobility in soil              | Data not available.                                                                                                                                                                                                                                                                                  |
| Other adverse effects         | Very toxic to aquatic life. Causes long-term adverse effects. 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                  | 1840                         |
| UN Proper shipping name    | CHLORURE DE ZINC EN SOLUTION |
| Transport hazard class(es) | 8 Corrosive substances       |
| Packing group              | III                          |
| Limited quantity index     | 5L                           |
| ERAP Index                 | -                            |
| Special precautions        | -                            |

## SECTION 15 - REGULATORY INFORMATION

|              |                                                                                                                                                                        |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHIMS CANADA | Serious eye damage/eye irritation - Serious eye damage category 1<br><br>Acute toxicity - Oral category 4<br><br>Skin corrosion/irritation - Skin corrosion category 1 |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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.

**Last Update: 4/1/2024**