



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

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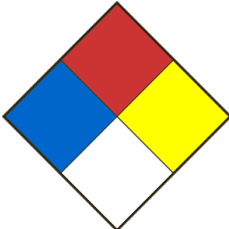
Fax. (Qc): (418) 660-8998

## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

|                                                                                                                            |                                    |                                             |              |
|----------------------------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------|--------------|
| Product Identifier<br>FRY'S REAGENT (MODIFIED)                                                                             |                                    | Product Use<br>Laboratory use               |              |
| Chemical formula<br>-                                                                                                      |                                    | Product code<br>FM-0199                     | Molar weight |
| Chemical name / Commercial name / Synonymous<br>Fry's reagent (modified), Modified Fry's (Spaeder) reagent. Fry's modifié, |                                    |                                             |              |
| 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 / 800-890-8666 |              |
| Emergency phone                                                                                                            | CANUTEC: 613-996-6666              | CENTRE ANTI-POISON DU QUÉBEC 800-463-5060   |              |
| Date SDS<br>8/2/2019                                                                                                       | SDS Prepared by<br>Laboratoire MAT | E-Mail<br>labmat@labmat.com                 |              |

## SECTION 02 - HAZARDS IDENTIFICATION

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Classification WHIMS / GHS</b>                                                   | Corrosive to metals-Category 1<br>Serious eye damage/eye irritation - Serious eye damage category 1<br>Skin corrosion/irritation - Skin corrosion category 1<br>Acute toxicity - Inhalation category 4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Signal Word</b>                                                                  | DANGER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Hazards statements (H)</b>                                                       | H290 May be corrosive to metals.<br>H318 Causes serious eye damage.<br>H314 Causes severe skin burns and eye damage.<br>H332 Harmful if inhaled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Precautionary statements (P)</b>                                                 | P234 Keep only in original container.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection.<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>P390 Absorb spillage to prevent material damage.<br>P406 Store in a corrosion resistant container / or a container with corrosion resistant liner.<br>P260 Do not breathe dust / fume / gas / mist / vapours / spray.<br>P264 Wash the areas of the body that have been in contact with the product after handling.<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>P321 Specific treatment (see section 4 of the SDS and on this label).<br>P363 Wash contaminated clothing before reuse.<br>P405 Store locked up.<br>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.<br>P261 Avoid breathing dust / fume / gas / mist / vapours / spray.<br>P312 Call a POISON CENTER or doctor/physician if you feel unwell. |
| <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> 2<br><b>Special danger</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingrédients (Dénomination chimique / synonymes) | Numéro CAS et tout identificateur unique | Concentration (%) |
|-------------------------------------------------|------------------------------------------|-------------------|
| Acide nitrique                                  | 7697-37-2                                | 11                |
| Acide chlorhydrique                             | 7647-01-0                                | 5                 |
| Chlorure cuivrique dihydrate                    | 10125-13-0                               | 0.5               |
| 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. 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>         | 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>                                | Do not use a heavy water stream.                                                                                                                                                                                                                          |
| <b>Hazardous combustion / decomposition products</b>                 | Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO <sub>x</sub> ). - Hydrogen chloride gas, copper oxides. To our knowledge, the products of combustion and decomposition have not been fully studied.                  |
| <b>Special fire and explosion hazards</b>                            | 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 vapours, mist or gas. Do not let product enter drains. |
|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 07 - HANDLING AND STORAGE

|                                    |                                                                                                                                                                                                                                                                                                                                       |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conditions for safe storage</b> | Store in a cool, dry place. Store in a well-ventilated area. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. Protect from sunlight and light.                                                                                                                                     |
| <b>Methods of handling</b>         | Ensure good ventilation. Bottle in glass or plastic containers. Do not use metal instruments to handle this product. Avoid breathing vapors, spray mists or gases. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14) This product is corrosive to metals. |

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

| Components                  | CAS-No.                                                                                                                                | Value             | Control parameters              | Basis                                                                                                                                   |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Nitric acid                 | 7697-37-2                                                                                                                              | TWA               | 2.000000 ppm<br>5.200000 mg/m3  | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                             |                                                                                                                                        | STEL              | 4.000000 ppm<br>10.000000 mg/m3 | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                             |                                                                                                                                        | TWA               | 2.000000 ppm                    | Canada. British Columbia OEL                                                                                                            |
|                             |                                                                                                                                        | STEL              | 4.000000 ppm                    | Canada. British Columbia OEL                                                                                                            |
|                             |                                                                                                                                        | TWAEV             | 2.000000 ppm<br>5.200000 mg/m3  | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
|                             |                                                                                                                                        | STEV              | 4.000000 ppm<br>10.000000 mg/m3 | Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants |
|                             |                                                                                                                                        | TWA               | 2.000000 ppm                    | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
|                             |                                                                                                                                        | STEL              | 4.000000 ppm                    | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
| Components                  | CAS-No.                                                                                                                                | Value             | Control parameters              | Basis                                                                                                                                   |
| Hydrochloric acid           | 7647-01-0                                                                                                                              | (c)               | 2.000000 ppm<br>3.000000 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 ppm                    | Canada. British Columbia OEL                                                                                                            |
|                             |                                                                                                                                        | C                 | 5.000000 ppm<br>7.500000 mg/m3  | 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                                                               |                   |                                 |                                                                                                                                         |
|                             |                                                                                                                                        | (c)               | 2 ppm<br>3 mg/m3                | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                             | Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required |                   |                                 |                                                                                                                                         |
|                             | C<br>2 ppm<br>Canada. British Columbia OEL                                                                                             |                   |                                 |                                                                                                                                         |
|                             |                                                                                                                                        | C                 | 5 ppm<br>7.5 mg/m3              | 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                                                               |                   |                                 |                                                                                                                                         |
|                             |                                                                                                                                        | C                 | 2.000000 ppm                    | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
|                             |                                                                                                                                        | C                 | 2 ppm                           | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
| Components                  | CAS-No.                                                                                                                                | Value             | Control Citric acid             |                                                                                                                                         |
| Cupric chloride (Dihydrate) | 10125-13-0                                                                                                                             | 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.                                                                                                                                          |
| <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-vert translucide.             |
| <b>Odour</b>                                 | Odeur suffocante..                         |
| <b>Odour threshold</b>                       | Data not available                         |
| <b>pH</b>                                    | 1-2.                                       |
| <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>                            | Miscible avec l'eau en toutes proportions. |
| <b>Vapour density</b>                        | Data not available                         |
| <b>Relative density</b>                      | Data not available                         |
| <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. May discolor on exposure to light.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Possibility of hazardous reactions</b>                                                        | Stable under normal conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b> | Nitric acid is yellowish in color when exposed to light. Old nitric acid inventories (10 years and older) or yellowish-colored batches have formed a nitroz compound with very explosive potential. Avoid contact with incompatible materials and extreme temperatures. Light sensitive. May discolor if exposed to light.                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Incompatible material</b>                                                                     | When pure, the products react with the following products: Bases, Amines, alkali metals, metals, permanganates, fluorine, metal acetylides, hexalithium disilicide. Acetylene, potassium and sodium metal, alkali metals and moisture. Nitric acid is incompatible with bases, most metals, especially alkali metals, powdered metals, metal oxides, reducing agents, organic substances, including anhydrides, alcohols, aldehydes, ketones, ethers, amines, hydrocarbons, toluene, acetonitrile, acrylonitrile, chlorobenzene, methylene chloride, etc., combustible organic materials such as paper, charcoal, wood dust, etc. and with many sulphides, nonmetallic hydrides, carbides, and acetylenides. |
| <b>Hazardous decomposition products</b>                                                          | Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx). - Hydrogen chloride gas - Copper oxides To our knowledge, the products of decomposition have not been fully studied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

## SECTION 11 - TOXICOLOGICAL INFORMATION

## COPPER (II) CHLORIDE (ANHYDROUS)

|                                                  |                                                                                                                                                                                                                                                                                                                |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <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 and opacification of ocular tissue (Wilson's disease).                                                                                                                                                                                                       |
| <b>- Skin</b>                                    | Irritation and dermatitis. Intense and prolonged exposure may cause severe irritation and burns to exposed surfaces.                                                                                                                                                                                           |
| <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, liver (cirrhosis) and kidney damage, cramps, diarrhea, headache, dizziness, sweating, salivation, convulsions, tachycardia, hypotension, coma and can lead to death.                                                                                       |
| <b>Chronic exposure effects / symptoms</b>       | Burning sensation, dermatitis, conjunctivitis, eye and lung damage, nerve disorders, chest pain, cough, dyspnoea, laryngitis, headache, dizziness, confusion, irritability, metallic taste in the mouth, sweating, salivation, anemia hemolytic, fever, weight loss and loss of appetite, nausea and vomiting. |
| <b>DL50 (specify species and route of entry)</b> | LD50 Oral - Rat - 584 mg/kg LD50 Dermal - Rat - 1224-2000 mg/kg.                                                                                                                                                                                                                                               |
| <b>CL50 (specify species and route of entry)</b> | LC50 - Inhalation - Data not available.                                                                                                                                                                                                                                                                        |

## HYDROCHLORIC ACID

|                                                  |                                                                                                                                                                                                                                  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Ingestion, inhalation, skin and eyes.                                                                                                                                                                                            |
| <b>Acute exposition effects / symptoms:</b>      | By exposure route below.                                                                                                                                                                                                         |
| <b>- Eyes</b>                                    | Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.                                                                                                                                 |
| <b>- Skin</b>                                    | Severe burns and tissue ulcerations. Perhaps fatal, if the extent of the burns is considerable.                                                                                                                                  |
| <b>- Inhalation</b>                              | 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.                                                             |
| <b>Acute toxicity (Ingestion)</b>                | Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall. Dysphagia, abdominal pain, cramps, diarrhea, melena, hematemesis, possible perforation of the esophagus and stomach, sweating, salivation. |
| <b>Chronic exposure effects / symptoms</b>       | Burning sensation, dermatitis, conjunctivitis, photophobia, lung and eye damage, chest pain, dental enamel abrasion, cough, dyspnoea, laryngitis, tracheobronchitis, headache, dizziness, fever, sweating, salivation, thirst.   |
| <b>DL50 (specify species and route of entry)</b> | Oral 238-277 mg/Kg-Rat LD50 - Dermal 1449 mg/kg-Mouse                                                                                                                                                                            |
| <b>CL50 (specify species and route of entry)</b> | LC50 - Inhalation - 3124 ppm/1 h.-Rat                                                                                                                                                                                            |

## NITRIC ACID

|                                                  |                                                                                                                                                                                                            |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Ingestion, inhalation, skin and eyes.                                                                                                                                                                      |
| <b>Acute exposition effects / symptoms:</b>      | By exposure route below.                                                                                                                                                                                   |
| <b>- Eyes</b>                                    | Irritation and tearing. Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.                                                                                   |
| <b>- Skin</b>                                    | May be harmful if absorbed through skin. Severe burns and tissue ulcerations.                                                                                                                              |
| <b>- Inhalation</b>                              | Spasms, irritation and inflammation of the nose, throat and lungs. Cough, dyspnea, cyanosis, chest pain. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death. |
| <b>Acute toxicity (Ingestion)</b>                | Corrosion and ulceration of the mouth, throat, esophagus, stomach and abdominal wall.                                                                                                                      |
| <b>Chronic exposure effects / symptoms</b>       | Dental erosions have been attributed to repeated exposures. To our knowledge, the chemical, physical and toxicological properties have not been fully investigated.                                        |
| <b>DL50 (specify species and route of entry)</b> | LD50 Oral - Data not available. LD50 Dermal - Data not available.                                                                                                                                          |
| <b>CL50 (specify species and route of entry)</b> | Inhalation: 67 ppm, 4hres, Mouse                                                                                                                                                                           |

## 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: 5389 mg/kg - Rat<br>LD50 Dermal: > 5000 mg/kg - Undefined species<br>LC50 Inhalation: 571 ppm - 4h - Mouse |

## SECTION 12 - ECOLOGICAL INFORMATION

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ecotoxicity                   | Hydrochloric acid: Toxicity to fish LC50 - Lepomis macrochirus (Bluegill) - 24.6 mg/l - 96 h (Hydrochloric acid) Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 4.91 mg/l - 48 h (Hydrochloric acid) Copper(II) chloride: Toxicity to fish: LC50 - Cyprinus carpio (Carp) - 0.12 - 0.23 mg / l - 96.0 h LC50 - Lepomis macrochirus - 0.9 mg / l - 96.0 h NOEC - Ictalurus punctatus - 0.013 mg / l - 60 d |
| Persistence and degradability | Data not available.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Bioaccumulative potential     | Data not available.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Mobility in soil              | Data not available.                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Other adverse effects         | Harmful to aquatic life. Avoid release to the environment.                                                                                                                                                                                                                                                                                                                                                                                          |

## 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                  | 3264                                        |
| UN Proper shipping name    | LIQUIDE INORGANIQUE CORROSIF, ACIDE, N.S.A. |
| Transport hazard class(es) | 8 Corrosive substances                      |
| Packing group              | II                                          |
| Limited quantity index     | 1L                                          |
| ERAP Index                 | -                                           |
| Special precautions        | (acide chlorhydrique, acide nitrique)       |

## SECTION 15 - REGULATORY INFORMATION

|              |                                                                                                                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHIMS CANADA | Corrosive to metals-Category 1<br>Serious eye damage/eye irritation - Serious eye damage category 1<br>Skin corrosion/irritation - Skin corrosion category 1<br>Acute toxicity - Inhalation category 4 |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## 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: 8/2/2019**