



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

Tél. (Qc): (418) 660-8666 / 800-890-8666

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

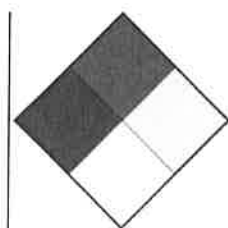
## SAFETY DATA SHEET

### SECTION 01 - PRODUCT AND COMPANY IDENTIFICATION

|                                                                                  |                                                                 |                                             |                             |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|-----------------------------|
| Product Identifier<br>MMC-30028                                                  |                                                                 | Product Use<br>Laboratory use               |                             |
| Chemical formula<br>-                                                            |                                                                 | Product code<br>MMC-30028                   | Molar weight                |
| Chemical name / Commercial name / Synonymous<br>MMC-30028, KELLERS, #SO8 KELLERS |                                                                 |                                             |                             |
| 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>8/14/2019                                                            | 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>Acute toxicity - Dermal category 2<br>Acute toxicity - Inhalation category 3<br>Skin corrosion/irritation - Skin corrosion category 1<br>Corrosive to metals-Category 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <b>Signal Word</b>                  | DANGER                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |
| <b>Hazards statements (H)</b>       | H290 May be corrosive to metals.<br>H302 Harmful if swallowed.<br>H310 Fatal in contact with skin.<br>H314 Causes severe skin burns and eye damage.<br>H318 Causes serious eye damage.<br>H331 Toxic if inhaled.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |  |
| <b>Precautionary statements (P)</b> | P234 Keep only in original container.<br>P260 Do not breathe dust / fume / gas / mist / vapours / spray.<br>P261 Avoid breathing dust / fume / gas / mist / vapours / spray.<br>P262 Do not get in eyes, on skin, or on clothing.<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>P271 Use only outdoors or in a well-ventilated area.<br>P280 Wear protective gloves/protective clothing/eye protection/face protection.<br>P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.<br>P302 + P352 IF ON SKIN: Wash with plenty of soap and water.<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>P311 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>P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.<br>P363 Wash contaminated clothing before reuse.<br>P390 Absorb spillage to prevent material damage.<br>P403 + P233 Store in a well-ventilated place. Keep container tightly closed.<br>P405 Store locked up.<br>P406 Store in a corrosion resistant container / or a container with corrosion resistant liner.<br>P501 Dispose of contents/container in accordance with local / regional / national / international regulations or contact a specialist waste disposal company.<br>P301 + P312 IF SWALLOWED: 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=Significant; 4=Extreme)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |  |



Health 3  
Fire 0  
Reactivity 1  
Special danger

## SECTION 03 - COMPOSITION/INFORMATION ON INGREDIENTS

| Ingrédients (Dénomination chimique / synonymes) | Numéro CAS et tout identificateur unique | Concentration (%) |
|-------------------------------------------------|------------------------------------------|-------------------|
| Acide chlorhydrique                             | 7647-01-0                                | 1                 |
| Acide hydrofluorique                            | 7664-39-3                                | 1                 |
| Acide nitrique                                  | 7697-37-2                                | 3                 |
| Eau                                             | 7732-18-5                                | Balance           |

## SECTION 04 - FIRST AID MEASURES

|                                                                 |                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact                                                     | Wash eyes with large amounts of water for at least 15 minutes while holding eyelids apart to rinse eyes. If irritation persists, seek medical attention.                                                                                       |
| Skin contact                                                    | Treat the exposed skin with a 2.5% calcium gluconate gel, repeated application, until the burning sensation ceases. Wash skin with plenty of water for at least 15 minutes. Remove soiled clothing. Consult a physician.                       |
| Inhalation                                                      | Move the unwell person to the fresh air. If breathing is difficult, give oxygen. Consult a physician.                                                                                                                                          |
| Ingestion                                                       | Get immediate medical help. While awaiting the arrival of the aid, the patient may be ingested with a solution of 10% calcium gluconate or 5% calcium chloride. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. |
| Most important symptoms and effects (acute and delayed)         | Ref. section 11.                                                                                                                                                                                                                               |
| Immediate medical attention and special treatment, if necessary | In case of medical consultation, keep this sheet available.                                                                                                                                                                                    |
| General advice                                                  | Show this safety data sheet to the doctor in attendance.                                                                                                                                                                                       |

## SECTION 05 - FIREFIGHTING MEASURES

|                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Flammability                                                  | No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Ignition conditions                                           | Not flammable or combustible.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Suitable extinguishing media                                  | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Unsuitable extinguishing media                                | Data not available.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Dangerous fumes - combustion                                  | When heated to decomposition, hydrofluoric acid releases toxic vapors of hydrogen fluoride.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Hazardous combustion / decomposition products                 | Hazardous decomposition products formed under fire conditions. - Gaseous hydrogen fluoride. - nitrogen oxides (NOx). Hydrogen chloride gas. To our knowledge, the products of combustion and decomposition have not been fully studied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Special fire and explosion hazards                            | When concentrated, the product reacts according to the following characteristics: The contact of hydrofluoric acid with certain metals can release hydrogen, a highly flammable gas. Violent and explosive reactions may occur in contact with: chlorosulfonic acid, nitric acid + glycerin, nitric acid + lactic acid, nitric acid + propylene glycol, sulfuric acid, acetic anhydride, ammonium hydroxide, arsenic trioxide, calcium oxide, ethylene diamine, fluorine, mercuric oxide + organic materials, oleum, phosphorus pentoxide potassium, potassium hydroxide, potassium permanganate, propylene oxide, sodium, sodium hydroxide and vinyl acetate. Hydrofluoric acid reacts violently with glass. May react violently with incompatible products (Ref Section 10). |
| Special protective equipment and precautions for firefighters | Discard incompatible substances if this can be done without risk. Firefighters should be equipped with standard protective equipment, fireproof clothing, face mask, gloves, protective boots and, where appropriate, self-contained breathing apparatus.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |

## SECTION 06 - ACCIDENTAL RELEASE MEASURES

|                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methods and materials for containment and cleaning up / Personnel precautions, protective equipment | Evacuate personnel to safe areas. If it is hydrofluoric acid in solution, it may be neutralized with sodium carbonate or calcium carbonate in a mixture, optionally, depending on the quantities, with an inert material. Use a respirator as needed. Ensure adequate ventilation. When handling, wear appropriate safety equipment. Prevent further leakage or spillage if it is safe to do so. Discharge into the environment must be avoided. |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 07 - HANDLING AND STORAGE

|                                    |                                                                                                                                                                                                                                                                                                                                  |
|------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Conditions for safe storage</b> | Do not store in glass. Store in corrosive resistant polyethylene container with a resistant inner liner. Keep container tightly closed in a dry and well-ventilated place. Store in cool place. Protect from the sun's rays. Keep container tightly closed and store away from heat, water, moisture, and incompatible products. |
| <b>Methods of handling</b>         | Ensure good ventilation. Always open containers slowly to allow any excess pressure to vent. Avoid inhalation of vapour or mist. Wear personal protective equipment when handling. Always ensure good ventilation. Transport according to TDG (ref Section 14). Provide an emergency kit nearby.                                 |

## SECTION 08 - EXPOSURE CONTROLS/PERSONAL PROTECTION

### Workplace control parameters

| Components                                                                                                                             | CAS-No.   | Value | Control parameters              | Basis                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------|-----------|-------|---------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| Hydrofluoric acid                                                                                                                      | 7664-39-3 | (c)   | 2.000000 ppm<br>1.600000 mg/m3  | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
| Remarks                                                                                                                                |           |       |                                 |                                                                                                                                         |
|                                                                                                                                        |           | C     | 2.000000 ppm                    | Canada. British Columbia OEL                                                                                                            |
|                                                                                                                                        |           | TWAEV | 0.500000 ppm                    | Canada. Ontario OELs                                                                                                                    |
|                                                                                                                                        |           | CEV   | 2.000000 ppm                    | Canada. Ontario OELs                                                                                                                    |
|                                                                                                                                        |           | C     | 3.000000 ppm<br>2.600000 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                                                               |           |       |                                 |                                                                                                                                         |
|                                                                                                                                        |           | TWA   | 0.500000 ppm<br>0.400000 mg/m3  | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                                                                                                                                        |           | TWA   | 0.5 ppm<br>0.4 mg/m3            | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                                                                                                                                        |           | (c)   | 2 ppm<br>1.6 mg/m3              | Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)                                                                     |
|                                                                                                                                        |           | C     | 2 ppm                           | Canada. British Columbia OEL                                                                                                            |
|                                                                                                                                        |           | C     | 3 ppm<br>2.6 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                                                               |           |       |                                 |                                                                                                                                         |
|                                                                                                                                        |           | TWA   | 0.500000 ppm                    | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
|                                                                                                                                        |           | C     | 2.000000 ppm                    | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
|                                                                                                                                        |           | TWA   | 0.5 ppm                         | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
|                                                                                                                                        |           | C     | 2 ppm                           | USA. ACGIH Threshold Limit Values (TLV)                                                                                                 |
| 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 | 2 ppm              | 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)                                                                                                 |

|                            |                                                                                                                                                                                                        |
|----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Data source</b>         | Sigma-Aldrich (Millipore Sigma)                                                                                                                                                                        |
| <b>Ventilation</b>         | Fan.                                                                                                                                                                                                   |
| <b>Respiratory</b>         | 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.                           |
| <b>Gloves</b>              | Handle with gloves.                                                                                                                                                                                    |
| <b>Eyes</b>                | Safety goggles with safety shutters.                                                                                                                                                                   |
| <b>Shoes</b>               | Safety shoes.                                                                                                                                                                                          |
| <b>Clothing</b>            | Labcoat. Complete suit protecting against chemicals, 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 incolore % v/v                     |
| <b>Odour</b>                                 | Donnée non disponible.                     |
| <b>Odour threshold</b>                       | Data not available                         |
| <b>pH</b>                                    | 1.                                         |
| <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 en toutes proportions avec l'eau. |
| <b>Vapour density</b>                        | Data not available                         |
| <b>Relative density</b>                      | 1.017g/ml                                  |
| <b>Partition coefficient water/n-octanol</b> | Data not available                         |
| <b>Auto-ignition temperature</b>             | Data not available                         |
| <b>Decomposition temperature</b>             | Data not available                         |
| <b>Viscosity</b>                             | Data not available                         |

## SECTION 10 - STABILITY AND REACTIVITY

|                                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                                                                                | Non-reactive under normal conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Chemical stability</b>                                                                        | Stable under recommended storage conditions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Possibility of hazardous reactions</b>                                                        | Stable under normal conditions. May react violently with incompatible substances.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Conditions of instability (Including sensitivity to shock / static discharge / vibration)</b> | Excessive heat and contaminations of all kinds. Avoid contact with incompatible materials and extreme temperatures. Light sensitive. 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Incompatible material</b>                                                                     | When pure, the products react with the following products: Strong bases, concrete, carbonates, cyanides, silicone-based materials, oxidizing or reducing materials, alkali metals, organic and combustible substances, sulphides, glass, heat, moisture, sun rays and light. Bases, Amines, alkali metals, metals, permanganates, fluorine, metal acetylides, hexalithium disilicide. 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. - Gaseous hydrogen fluoride. - nitrogen oxides (NOx). - Hydrogen chloride gas To our knowledge, the products of decomposition have not been fully studied.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

## SECTION 11 - TOXICOLOGICAL INFORMATION

### NITRIC ACID

|                                                  |                                                                                                                                                                                                            |
|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Ingestion, inhalation, skin and eyes.                                                                                                                                                                      |
| <b>Acute exposition effects / symptoms:</b>      | By exposure route below.                                                                                                                                                                                   |
| - Eyes                                           | Irritation and tearing. Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.                                                                                   |
| - Skin                                           | May be harmful if absorbed through skin. Severe burns and tissue ulcerations.                                                                                                                              |
| - Inhalation                                     | 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                                                                                                                                                                           |

### HYDROFLUORIC ACID (70%)

|                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Ingestion, inhalation, skin and eyes.                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Acute exposition effects / symptoms:</b>      | By exposure route below.                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| - Eyes                                           | (The liquid as well as the vapors are extremely corrosive). Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.                                                                                                                                                                                                                                                                                                      |
| - Skin                                           | (The liquid as well as the vapors are extremely corrosive). Severe burns and tissue ulcerations. Burns can penetrate deeply into the underlying tissues of the skin to reach the bone, and attack the bone through secondary hypocalcemia. May be fatal, if the extent of the burns is considerable.                                                                                                                                                              |
| - Inhalation                                     | Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.                                                                                                                                                                                                                                                                                              |
| <b>Acute toxicity (Ingestion)</b>                | Corrosion and ulcerations of the gastrointestinal tract. Dysphagia, liver and kidney damage, abdominal pain, cramps, diarrhea, melena, hematemesis, necrosis of the esophagus and stomach, stenosis, cardiac disorders, hypocalcemia, convulsions, circulatory collapse, unconsciousness, coma, and death.                                                                                                                                                        |
| <b>Chronic exposure effects / symptoms</b>       | Burning sensation, nerve disorders, lung damage, chest pain, cough, dyspnea, bronchitis, headache, dizziness, sweating, salivation, tremors, dental enamel abrasion, anemia, leukopenia, fatigue, weight loss and loss of appetite, convulsions, nausea and vomiting. Prolonged exposure to this product may promote the development of skin ulcers, bone (osteosclerosis) and joint lesions, fluorosis, secondary hypocalcemia, and may even result in gangrene. |
| <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> | LC50 Inhalation - Rat - 1h - 1 307-2 340 ppm                                                                                                                                                                                                                                                                                                                                                                                                                      |

## HYDROCHLORIC ACID

|                                                  |                                                                                                                                                                                                                                  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Routes of exposure</b>                        | Ingestion, inhalation, skin and eyes.                                                                                                                                                                                            |
| <b>Acute exposure effects / symptoms:</b>        | By exposure route below.                                                                                                                                                                                                         |
| - Eyes                                           | Severe burns and destruction of ocular tissue that can lead to corneal ulceration and blindness.                                                                                                                                 |
| - Skin                                           | Severe burns and tissue ulcerations. Perhaps fatal, if the extent of the burns is considerable.                                                                                                                                  |
| - Inhalation                                     | Spasms, irritation and inflammation of the nose, throat and lungs. Edema of the larynx and bronchi. Chemical pneumonitis and pulmonary edema that can lead to death.                                                             |
| <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                                                                                                                                                                                            |

## 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: 654 mg/kg - Rat<br>LD50 Dermal: 111 mg/kg - Undefined species<br>LC50 Inhalation: 2278 ppm - 4h - Undefined species |

## SECTION 12 - ECOLOGICAL INFORMATION

|                                  |    |
|----------------------------------|----|
| Available ecological information | No |
|----------------------------------|----|

## SECTION 13 - DISPOSAL CONSIDERATIONS

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

## SECTION 14 - TRANSPORT INFORMATION

|                                   |                                                   |
|-----------------------------------|---------------------------------------------------|
| <b>UN Number</b>                  | 3289                                              |
| <b>UN Proper shipping name</b>    | LIQUIDE INORGANIQUE TOXIQUE, CORROSIF, N.S.A.     |
| <b>Transport hazard class(es)</b> | 6.1 Toxic substances<br>8 Corrosive substances    |
| <b>Packing group</b>              | II                                                |
| <b>Limited quantity index</b>     | 0,1L                                              |
| <b>ERAP Index</b>                 | -                                                 |
| <b>Special precautions</b>        | 16 (Acide fluorhydrique, chlorhydrique, nitrique) |

## SECTION 15 - REGULATORY INFORMATION

|              |                                                                                                                                                                                                                                                                                  |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| WHIMS CANADA | Serious eye damage/eye irritation - Serious eye damage category 1<br>Acute toxicity - Oral category 4<br>Acute toxicity - Dermal category 2<br>Acute toxicity - Inhalation category 3<br>Skin corrosion/irritation - Skin corrosion category 1<br>Corrosive to metals-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: 8/14/2019