

| Section 1. Identification                     |   |  |
|---|---|--|
| Product Identifier                            | C.B. Cleaner  | Version: 8 Effective Date: 4 December 2020 |
| Other Means Of Identification                 | Not applicable  |  |
| Initial Supplier<br>Identifier                | Chemfax Products Ltd.<br>11444 – 42 Street SE<br>Calgary, AB T2C 5C4<br>Tel: 403-287-2055 |  |
| Recommended Use<br>And Restrictions On<br>Use | Copper and brass cleaner<br>Industrial use  |  |
| Product Family Emergency Phone                | Blend<br>1-855-887-2055 Monday - Friday 8:00a   | am - 4:30pm MST                            |

| Section 2. Hazard Identification |   |  |
|----------------------------------|---|--|
| Hazard Classification            |   |  |
|                                  | Skin Corrosion/Irritation — Category 1B                         |  |
|                                  | Eye Damage/Irritation – Category 1                              |  |
|                                  | Acute Toxicity (Oral) - Category 3                              |  |
| Signal Word                      | Danger  |  |
| Hazard Statement                 | Causes severe skin burns and eye damage.                        |  |
|                                  | Toxic if swallowed.   |  |
| Precautionary Prevention         | Do not inhale dust or mist.                                     |  |
| Statement                        | Wash hands thoroughly after handling.                           |  |
|                                  | Wear protective gloves, clothing, and eye & face protection.    |  |
|                                  | Do not eat, drink or smoke when using this product.             |  |
| Precautionary Response           | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.              |  |
| Statement                        | Immediately call a POISON CENTRE.                               |  |
|                                  | IF ON SKIN (or hair): Immediately take off all contaminated     |  |
|                                  | clothing. Rinse skin with water or shower if on clothes. Wash   |  |
|                                  | contaminated clothing before reuse.                             |  |
|                                  | IF INHALED: Remove person to fresh air and keep comfortable for |  |
|                                  | breathing.  |  |
|                                  | IF IN EYES: Rinse cautiously with water for several minutes.    |  |



|                              | Remove contact lenses if present and easy to do. Continue rinsing.    |
|------------------------------|---|
|                              | Specific Treatment: First aid procedures require medical personnel.   |
| <b>Precautionary Storage</b> | Store locked up.  |
| Statement                    |   |
| Precautionary Disposal       | Dispose of contents / container in accordance with local regulations. |
| Statement                    |   |
| Other Hazards                | None  |

| Section 3. Composition / Information on Ingredients                                    |                                     |                                      |             |
|--|-------------------------------------|--------------------------------------|-------------|
| Chemical Name  | Common Name or<br>Synonyms          | CAS NO. and Other Unique Identifiers | % by weight |
| Sulphuric acid   | Oil of vitriol<br>Ammonium hydrogen | 7664-93-9                            | 10 – 30     |
| Ammonium Bifluoride  | difluoride                          | 1341-49-7                            | 1 - 10      |
| Balance of ingredients are considered non-hazardous and constitute a proprietary blend |                                     |                                      |             |

| Section 4. First-Aid Measures |   |  |
|-------------------------------|---|--|
| Eye Contact                   | Immediately flush eyes with water for 30 minutes, preferably 60 minutes. Hold eyelids open during flushing. If irritation persists, repeat flushing. Do not transport victim until flushing period is complete, unless flushing can be continued during transport. Seek IMMEDIATE medical attention.  |  |
| Skin Contact                  | Prompt removal of the material from the skin is essential. Remove all contaminated clothing and wash exposed areas with copious amounts of water for a minimum of 30 minutes and up to 60 minutes. Obtain IMMEDIATE medical attention.  |  |
| Inhalation                    | Remove victim to fresh air. Obtain IMMEDIATE medical attention.   |  |
| Ingestion                     | IMMEDIATELY contact your local Poison Control Centre. If the victim is conscious, alert, and non-convulsing, rinse mouth out and give 1 to 2 glasses of milk (water may be used in place of milk but will not be as effective). If spontaneous vomiting occurs, have the victim lean forward to avoid aspiration of the vomit, rinse mouth and administer more milk or water. Do not induce vomiting. Seek IMMEDIATE medical attention. |  |
| Most Important                | Corrosive to skin and eye. Highly toxic.  |  |
| Symptoms and Effects          | Causes severe burns by all routes of exposure.  |  |
| <b>Both Acute and Delayed</b> |   |  |



|                       | <b>∀</b>   |
|-----------------------|--|
| Immediate Medical     | Do not attempt to neutralize the acid with a weak base as the          |
| Attention and Special | exothermic reaction may extend the corrosive injury. Do not use        |
| Treatment             | buffering agents (antacids) as they can produce significant exothermic |
|                       | reaction without significantly altering the pH.                        |
|                       | Perforation of the esophagus may lead to mediastinitis or peritonitis  |
|                       | and resultant complications. Mucosal injury following ingestion of     |
|                       | this corrosive material may contraindicate the induction of vomiting,  |
|                       | similarly, if gastric lavage is performed, intubation should be done   |
|                       | with great care. If ingestion is suspected an esophagoscopy should be  |
|                       | performed as soon as possible. Scope should not be passed beyond the   |
|                       | first burn due to risk of perforation.                                 |
| ` <u> </u>            |  |

| Section 5. Fire-Fighting Measures |  |  |
|-----------------------------------|--|--|
| Suitable and Unsuitable           | Do not use water. Use media appropriate for surrounding fire.          |  |
| Extinguishing Media               |  |  |
| Hazardous                         | Thermal combustion products are toxic and may include oxides of        |  |
| <b>Combustion Products</b>        | sulphur and irritating gases.  |  |
| Specific Hazards Arising          | Liberates hydrogen fluoride which is highly corrosive and toxic.       |  |
| From the Product                  | Gives off hydrogen by reaction with metals.                            |  |
| Special Protective                | Fire-fighters should wear self-contained breathing apparatus and full  |  |
| Equipment and                     | protective clothing. Use water spray to cool containers and structures |  |
| Precautions for Fire-             | exposed to fire.   |  |
| Fighters                          | Avoid direct contact of this product with water as this can cause a    |  |
|                                   | violent exothermic reaction. Closed containers exposed to heat may     |  |
|                                   | explode. Reacts with most metals to produce hydrogen gas which         |  |
|                                   | could make an explosive mixture with air.                              |  |

| Section 6. Accidental Releas     | e Measures  |  |
|----------------------------------|---|--|
| Personal Precautions,            | Any person in the area of the spill should be fully equipped with     |  |
| Protective Equipment and         | protective equipment – chemical resistant clothing, footwear, gloves, |  |
| <b>Emergency Procedures</b>      | safety glasses and respirator. Evacuate personnel to safe area. Keep  |  |
|                                  | people away from and upwind of spill/leak.                            |  |
| Environmental                    | Do not allow to enter the storm water systems or surface drains. Dike |  |
| Precautions                      | and contain any spill.  |  |
| <b>Methods and Materials for</b> | Do not use any combustible material as an absorbent (i.e. sawdust).   |  |
| <b>Containment and Clean</b>     | Spilled material may cause floors and contact surfaces to become      |  |
| Up                               | slippery. Residues or material that cannot be recovered must be       |  |
|                                  | neutralized with soda ash or sodium bicarbonate (final pH should be 6 |  |
|                                  | to 9). Neutralization is expected to be exothermic with vigorous      |  |
|                                  | effervescence.  |  |



| Section 7. Handling and Storage |   |  |
|---------------------------------|---|--|
| <b>Precautions For Safe</b>     | Corrosive material, handle with care. Good housekeeping practices   |  |
| Handling                        | should be in place. Containers exposed to heat may be under internal pressure. These should be cooled and carefully vented before opening, protective wear should be worn. When diluting, added small amounts of the product to water to avoid spattering. Never add water to this product. |  |
| Conditions For Safe<br>Storage  | Store in a cool, well ventilated area. Keep containers closed when not in use. Ensure product segregation measures are in place, keep away  |  |
| Storage                         | from incompatible materials. Containment for spillage should be in place with acid resistant coatings.  |  |

| Section 8. Exposure Controls / Personal Protection |  |                     |         |                                      |
|--|--|---------------------|---------|--------------------------------------|
| Control Parameters Sulphuric acid                  | TWA: 8 Hr<br>1 mg/m <sup>3</sup><br>OSHA (PEL)   | STEL: 15 min        | Ceiling | IDLH * 15 mg/ m <sup>3</sup> (NIOSH) |
| Ammonium Bifluoride                                | 2.5 mg/m³ (as F)<br>OSHA PEL<br>* Immediately Da                                       | ngerous to Life and | Health  | $500 \text{ mg/m}^3$                 |
| <b>Exposure Controls</b>                           | Local exhaust ven  | tilation            |         |                                      |
| Appropriate Engineering Controls                   | Ensure that eyewash stations and safety showers are close to the workstation location. |                     |         |                                      |
| Individual Protective<br>Measures                  |  |                     |         |                                      |
| Eye/Face Protection                                | Safety glasses.  |                     |         |                                      |
| Skin Protection                                    | Chemical resistant coveralls, gloves and footwear.                                     |                     |         |                                      |
| <b>Respiratory Protection</b>                      | Air purifying respirator fitted with cartridges for acid gases / particulate.          |                     |         |                                      |

| Section 9. Physical and Chemical Properties |                    |  |
|---|--------------------|--|
| Appearance                                  | Pale yellow liquid |  |
| Odour                                       | Pungent            |  |
| Odour Threshold                             | Not available.     |  |
| pH  | 2.0                |  |
| Flash Point                                 | > 100 C            |  |
| <b>Boiling Point and Boiling Range</b>      | No data            |  |



| <b>Melting Point and Freezing Point</b> | No data |
|---|---------|
| <b>Evaporation Rate</b>                 | No data |
| Flammability (solid, gas)               | No data |
| Upper and Lower flammability or         | No data |
| <b>Explosive Limits</b>                 |         |
| Vapour Pressure                         | No data |
| Vapour Density                          | No data |
| <b>Relative Density</b>                 | 1.156   |
| Solubility                              | Soluble |
| Partition co-efficient, n-              | No data |
| Octanol/Water                           |         |
| <b>Auto-ignition Temperature</b>        | No data |
| <b>Decomposition Temperature</b>        | No data |
| Viscosity                               | No data |

| Section 10. Stability and Reactivity |   |
|--------------------------------------|---|
| Reactivity                           | Reacts with metals and bases  |
| Chemical Stability                   | Stable  |
| Possibility of Hazardous             | Will not occur  |
| Reactions                            |   |
| Conditions to Avoid                  | Excessive temperatures.   |
| Incompatible Materials               | Violently reactive with: sodium chlorite, reducing agents, strong bases, combustibles, metals, alkali metals and their hydrides, organic materials, aluminium and its alloys, copper and its alloys, cast iron, mild steel, and titanium. |
| Hazardous Decomposition<br>Products  | At elevated temperatures, hydrogen fluoride gases may be involved in contact with metals. Material will react with metals as listed above and produce hydrogen gas.   |

| Section 11. Toxicological Information |                    |  |   |
|---------------------------------------|--------------------|--|---|
| <b>Component Toxicity</b>             | LD50 Oral          | LD50 Dermal                            | LC50 Inhalation                                   |
| Sulphuric Acid                        | 2140mg/kg<br>(Rat) | No data                                | 255 mg/m <sup>3</sup> (Rat) 4h                    |
| Ammonium Biflouride                   | 60mg/kg (Rat)      |  |   |
| <b>Likely Routes of Exposure</b>      | •                  |  |   |
| Skin:                                 | immediately. T     | oxic effects are seco                  | burns if not washed off ndary and may be delayed. |
| Eyes:                                 | •                  | neal scarring and clodeness may occur. | uding. Glaucoma, cataracts and                    |



| Repeated and prolonged exposure may cause a productive concurred running nose, bronchopneumonia, pulmonary oedema (fluid up in the lungs), and reduction of pulmonary function  May causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophag stomach lining may occur. Prolonged and repeated exposure | build-<br>l<br>us and |
|--|-----------------------|
| up in the lungs), and reduction of pulmonary function  Ingestion:  May causes severe burning and pain in the mouth, throat and abdomen. Vomiting, diarrhea and perforation of the esophag stomach lining may occur. Prolonged and repeated exposure  | us and                |
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| abdomen. Vomiting, diarrhea and perforation of the esophag stomach lining may occur. Prolonged and repeated exposure   | us and                |
| stomach lining may occur. Prolonged and repeated exposure  |                       |
|  | may                   |
|  |                       |
| cause discolouration and erosion of the teeth.   |                       |
| Acute Toxicity Estimate No data  |                       |
| (ATE)  |                       |
| STOT (Specific Target No data  |                       |
| Organ Toxicity) – Single   |                       |
| Exposure   |                       |
| Aspiration Toxicity No data  |                       |
| STOT (Specific Target No data  |                       |
| Organ Toxicity) – Repeated   |                       |
| Exposure   |                       |
| Skin Corrosion / Irritation Corrosive  |                       |
| Serious Eye Damage / Risk of serious damage  |                       |
| Irritation   |                       |
| <b>Respiratory or Skin</b> Did not cause sensitization on laboratory animals.  |                       |
| Sensitization  |                       |
| Carcinogenicity No direct link has been established, but the World Health  |                       |
| Organization has concluded that exposure to Sulphuric acid   | fumes                 |
| and vapours may be linked to cancer of the larynx and possible   | oly the               |
| lung.  |                       |
| Reproductive Toxicity  |                       |
| - Sexual function and No data  |                       |
| Fertility  |                       |
| - <b>Development of</b> No data  |                       |
| Offspring  |                       |
| - Effects on or via No data  |                       |
| Lactation  |                       |
| Germ Cell Mutagenicity No evidence of mutagenic effects  |                       |
| Interactive Effects No data  |                       |
| Other Information Toxic effect linked with corrosive properties.   |                       |

| Section 12. Ecological Information |  |
|------------------------------------|--|
| Ecotoxicity                        | Sulphuric acid: harmful to aquatic life at low concentrations and is |
|                                    | primarily associated with low pH.                                    |



|                                 | $\mathcal{J}$                            |
|---------------------------------|--|
|                                 | 24 hr TLm = 24.5 mg/L (Bluegill)         |
|                                 | 48 hr $TLm = 49 \text{ mg/L (Bluegill)}$ |
|                                 | 48 hr LC50: 100 – 300 mg/L (Flounder)    |
| Persistence and                 | Does not bioaccumulate                   |
| Degradability                   |  |
| <b>Bioacumulative Potential</b> | Will not bioaccumulate                   |
| Biodegradability                | Not available                            |
| Mobility in Soil                | Not available                            |
| Other adverse effects           | None                                     |

| Section 13. Disposal Consideration |   |
|------------------------------------|---|
| <b>Disposal Considerations</b>     | Dispose of contents/container in accordance with local regulations. |

| Section 14. Transport Information |                         |
|-----------------------------------|-------------------------|
| UN Number                         | UN2796                  |
| <b>UN Proper Shipping Name</b>    | Sulphuric acid solution |
| Transport Hazard                  | 8                       |
| Class(es)                         |                         |
| Packaging Group                   | II                      |
| <b>Environmental Hazards</b>      | Not applicable          |
| Bulk Transport                    | Not applicable          |
| Special Precaution                | Not applicable          |
| DOT Erg#                          | 157                     |

| Section 15. Regulatory Information |  |
|------------------------------------|--|
| Canada – DSL Inventory             | All components of this product are either on the Domestic Substances |
|                                    | List (DSL), Non-Domestic Substances List (NDSL), or exempt           |
| TSCA                               | All components of this product are either on the Toxic Substances    |
|                                    | Control Act (TSCA) Inventory List or exempt                          |
| Additional Information             | None   |



| Section 16. Other                        | Information   |
|--|---|
| NFPA Rating                              | Health-3/ Flammability-0/Reactivity-2/Special Hazard-Not applicable     |
| <b>HMIS Rating</b>                       | Health-3/Flammability-0/Reactivity-2/Personal Protection-See Section 8. |
| Prepared by:                             | Chemfax Products Ltd., Technical Department                             |
| <b>Date Prepared:</b>                    | 5 January, 2012   |
| Date of Latest Revision: 4 December 2020 |   |

#### **Disclaimer:**

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