Safety Data Sheet (SDS)
Trade Name: Discharge Agent
Revision Date: July 22, 2014

SECTION 1
Product Name and Company Identification

1.1 Product Names: Discharge Agent
   Product Code: DC 294

1.2 Uses/Application: Discharge Agent

1.3 Company (Name, address and phone numbers
   Lancer Group International
   311 Saulteaux Crescent
   Winnipeg, Manitoba,
   Canada R3J 3C7
   +1 (204) 889-7422

1.4 24 Hour Emergency Number: +1(613) 996-6666 CANUTEC

SECTION 2
Hazards Identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
   Self-heating substances (Category 1)
   Acute toxicity, Oral (Category 4)
   Skin irritation (Category 2)
   Eye irritation (Category 2)
   Specific target organ toxicity - single exposure (Category 3)

2.1.2 Classification according to EU Directives 67/548/EEC or 1999/45/EC
   Heating may cause an explosion. Harmful if swallowed. Irritating to eyes, respiratory system and skin

2.1.3 WHMIS Classification: Class D2B

2.2 Label Elements
   Pictogram  Signal word
   None       Danger

Hazard statement(s)
   H251  Self-heating; may catch fire.
   H302  Harmful if swallowed
   H315  Causes skin irritation.
   H319  Causes serious eye irritation.
   H335  May cause respiratory irritation.

Precautionary statement(s)
   P235 + P410  Keep cool. Protect from sunlight
   P261  Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
   P305 + P351 + P338 IF IN EYES
      Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
SECTION 3
Composition/Information on Ingredients

Hazardous ingredients

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Percentage</th>
<th>TLV (ppm)</th>
<th>CASNo</th>
<th>EC No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thiourea Dioxide</td>
<td>&gt;99</td>
<td></td>
<td>1758-73-2</td>
<td>217-157-8</td>
</tr>
</tbody>
</table>

SECTION 4
First Aid Measures

As a general rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing in an unconscious person.

4.1 Description of First Aid Measures
   4.1.1 Treatment for Eye Contact: Immediately flush eyes with water for 15 minutes holding the eyelids open. If there is any redness, pain or visual impairment consult an ophthalmologist.
   4.1.2 Treatment for Skin Contact: Remove contaminated clothing and wash the skin thoroughly with soap and water. In the event of allergic reaction, seek medical attention.
   4.1.3 Treatment for Inhalation: In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest. If the person is unconscious, place in recovery position. Notify a doctor in all events, to ascertain whether observation and supportive hospital care will be necessary.
   4.1.4 Treatment for Ingestion: Do not give the patient anything orally. In the event of swallowing, if quantity is small rinse the mouth with water and consult a doctor. Do not induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed
   No data available

4.3 Indication of any immediate medical attention and special treatment needed
   No data available

SECTION 5
Fire-fighting Measures

5.1 Extinguishing Media
   Suitable extinguishing media: In the event of fire use carbon dioxide, dry chemical agents, foam.
   Unsuitable extinguishing media: In the event of fire do not use water jet.

5.2 Special hazards arising from the substance or mixture: A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health. Do not breathe smoke. In the event of fire, carbon monoxide (CO) and carbon dioxide (CO₂) may be formed.

5.3 Advice for firefighters: Due to the toxicity of the gas emitted on thermal decomposition of the products, fire-fighting personnel are to be equipped with self-contained breathing apparatus (SCBA).
SECTION 6
Accidental Release Measures

6.1 Personal Precautions, protective equipment and emergency procedures
   6.1.1 For non-emergency personnel: Avoid inhaling vapors. Avoid any contact with skin and eyes. If large quantity has been spilled, evacuate all personnel and allow intervention by trained operators with safety apparatus
   6.1.2 For emergency responders: Only qualified personnel equipped with suitable protective equipment may intervene.

6.2 Environmental Precautions: Contain and control the leaks or spills with non-combustible absorbent material such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal. Material should not be drained into the sewers.

6.3 Methods and material for containment and cleaning-up:
   Scoop material into a clean, properly labeled container for disposal and absorb remainder with inert material.

6.4 Reference to other sections: refer to section 8 section 13

SECTION 7
Handling and Storage

7.1 Precautions for safe handling:
   7.1.1 Handling: 
      Handle and open containers with care. Avoid eye contact. Avoid excessive or repeated skin contact. Keep the containers closed when not in use.

   7.1.2 Hygiene measures:
      Handle in accordance with good industrial hygiene and safety practice.
      Wash hands before taking meal brakes and immediately after handling the product.
      Do not eat, drink or smoke when using the product.
      Remove and wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities:
   Storage Condition: Keep the container tightly closed in a cool, dry, well-ventilated area, away from oxidizing and combustible materials.
   Packaging material: store in original container

7.3 Specific end use(s): refer to section 1.2

SECTION 8
Exposure Controls/Personal Protection
8.1 Control parameters:
Exposure limits: No information available

8.2 Exposure controls:
8.2.1 Engineering Controls: Local exhaust ventilation may be needed to control air contaminants to their exposure limit. Provide mechanical ventilation for confined spaces.

8.2.2 Personal protective equipment:
Skin Protection: Nitrile gloves if continual contact is likely
Footwear: Sneakers
Clothing: Nitrile smock if available
Personal Hygiene: Avoid breathing fumes during fusion process. Wash hands before eating.
   Wash contaminated clothing before reuse. Normal washing will be sufficient.
Respiratory Protection: Not required with normal adequate ventilation
Ventilation: Exhaust system sufficient to remove vapours released during fusion process.

8.2.3 Environmental Exposure Controls: Do not drain into sanitary sewer system. Comply with applicable community Environmental protection laws.

SECTION 9
Physical and Chemical Properties

9.1 General information on basic physical and chemical properties:

Appearance
   Form    crystalline
   Colour   light yellow

Safety data
   pH   4 at 10 g/l at 20 °C (68 °F)
   Melting point   124 - 127 °C (255 - 261 °F)
   Boiling point   no data available
   Flash point   no data available
   Ignition temperature   no data available
   Lower explosion limit   no data available
   Upper explosion limit   no data available
   Vapour pressure   < 0.36 hPa (< 0.27 mmHg) at 30 °C (86 °F)
   Density   1.680 g/cm3 at 20 °C (68 °F)
   Water solubility   soluble
   Partition coefficient: n-octanol/water   log Pow: -3.23

9.2 Other information:
   Percent Volatile by volume: Not applicable; Does not contain any volatile organic compounds
   Hazardous Air pollutant: Does not contain any HAP’s in accordance with US Environmental requirement list
SECTION 10
Stability and Reactivity

10.1 Reactivity: Product stable at ambient temperature
    Conditions of Reactivity: Prolonged exposure to temperatures above 123°C

10.2 Chemical Stability: Under storage at normal ambient temperatures, the product is stable.

10.3 Possibility of hazardous reactions: Dust explosion

10.4 Conditions to avoid: Heat, humidity

10.5 Incompatible material: Oxidizing agents

10.6 Hazardous Decomposition Products: Carbon monoxide (CO), carbon dioxide (CO₂), hydrogen cyanide (HCN), nitrogen oxide and sulfur oxide

SECTION 11
Toxicological Information

11.1 Information on toxicological effects

Acute toxicity
    LD₅₀ Oral - rat - 1,120 mg/kg
    LD₅₀ Dermal - rat - > 2,000 mg/kg

Irritation and corrosion
    Skin - rabbit - Skin irritation
    Eyes - rabbit - Moderate eye irritation

Sensitisation
    no data available

Chronic exposure
    ARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
    ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
    NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
    OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Potential Health Effects
Inhalation
    May be harmful if inhaled. Causes respiratory tract irritation.
Skin
May be harmful if absorbed through skin. Causes skin irritation.

Eyes
Causes eye irritation.

Ingestion
Harmful if swallowed

SECTION 12
Ecological Information

12.1 Toxicity
Ecotoxicity effects
Toxicity to daphnia and other aquatic invertebrates. EC50 - Daphnia magna (Water flea) - 390 mg/l - 24 h
Toxicity to algae EC50 - Scenedesmus subspicatus - 32 mg/l - 72 h

12.2 Persistence and degradability: no data available

12.3 Bioaccumulative potential: no data available

12.4 Mobility in soil: no data available

12.5 Results of PBT and vPvB assessment: no data available

SECTION 13
Disposal Considerations

13.1 Waste Treatment Methods
13.1.1 Product/ Packaging disposal

Waste Category based on European Council directive on Waste:
080313 (Appendix A –Consolidated European Waste Catalogue)
Classification: Non-hazardous

13.1.2 Waste Disposal Method: Dispose of in accordance with appropriate U.S. Federal, State and local regulations, regulations of Canada and regulations of EU member states.

SECTION 14
Transport Information

Canadian TDG Shipping Description:
Shipping name: Thiourea Dioxide
Hazard Class: 4.2 Packing group: II

DOT (US)
UN-Number: 3341
Class: 4.2 Packing group: II
Proper shipping name: Thiourea dioxide
Marine pollutant: No
Poison Inhalation Hazard: No
IMDG
UN-Number: 3341 Class: 4.2 Packing group: II
Proper shipping name: THIOUREA DIOXIDE
Marine pollutant: No

IATA
UN-Number:3341
Class: 4.2 Packing group: II
Proper shipping name: Thiourea dioxide

SECTION 15
Regulatory Information

15.1 Safety, health and environmental regulations/ legislation specific for the substance or mixture

The product is not on the list of controlled substances of the following:
   Regulation(EC) No.2037/2000
   Regulation(EC) No. 850/2004
   Regulation(EC) No. 1999/13

OSHA Hazards: Unstable Reactive, Harmful by ingestion., Irritant

SARA 302 Components
   SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
   SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
   Reactivity Hazard, Acute Health Hazard

Massachusetts Right To Know Components
   No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components
   Aminoiminomethanesulphinic acid CAS-No. 1758-73-2

New Jersey Right To Know Components
   Aminoiminomethanesulphinic acid CAS-No. 1758-73-2

California Prop. 65 Components
   This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects

U.S. TSCA Inventory Status: CAS #: 1758-73-2 is listed on the TSCA inventory
Canadian DSL / NDSL Inventory Status: CAS # 1758-73-2 is listed on the DSL List.

HMIS Classification
- Health Hazard: 2
- Flammability: 0
- Physical hazards: 3

SECTION 16
Other Information

DISCLAIMER: All information presented herein is given in good faith and is based on sources and tests are considered to be reliable but cannot be guaranteed. It is the user's full responsibility to accept risk for the safety, toxicity, handling, storage, and use of the product as well as to determine the suitability of this product for a specific purpose. We can make no warranty as to the results to be obtained in using the product. Therefore the user must assume all risk.

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