SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Gardolene® D 6812 (previously Gardo TP 10724/2)
MSDS Number : REL_11388
Company : Chemetall US, Inc.
675 Central Avenue
New Providence, NJ 07974
Telephone : +18005264473
Telefax : +19084644658
Emergency telephone no : CHEMTREC - 800-424-9300

SECTION 2. HAZARDOUS COMPONENTS INFORMATION

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Weight percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium (III) phosphate</td>
<td>7789-04-0</td>
<td>5.00 - 10.00</td>
</tr>
<tr>
<td>Chromium (III) nitrate</td>
<td>13548-38-4</td>
<td>5.00 - 10.00</td>
</tr>
<tr>
<td>Manganese gluconate</td>
<td>6485-39-8</td>
<td>5.00 - 10.00</td>
</tr>
<tr>
<td>Manganese (II) citrate</td>
<td>10024-66-5</td>
<td>1.00 - 5.00</td>
</tr>
</tbody>
</table>


SECTION 3. HAZARDS IDENTIFICATION

Emergency Overview

Form : liquid
Colour : green
Odour : acrid
Hazard Summary : Harmful by inhalation and if swallowed. Causes severe burns. Liquid or vapor causes burns which may be delayed.

Route(s) of Entry

<table>
<thead>
<tr>
<th></th>
<th>Inhalation</th>
<th>Skin</th>
<th>Ingestion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
</tbody>
</table>

Carcinogenicity:

NTP : No substance in this product is listed by NTP as a carcinogen
IARC : No substance in this product is listed by IARC as a carcinogen
OSHA : No substance in this product is regulated by OSHA as a carcinogen

SECTION 4. FIRST AID MEASURES

Inhalation : Remove to fresh air. If symptoms persist, call a physician. If
breathing is irregular or stopped, administer artificial respiration.

Skin contact: Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Get medical attention immediately if irritation develops and persists.

Eye contact: Rinse immediately with plenty of water for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention immediately.

Ingestion: Rinse mouth. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

SECTION 5. FIRE-FIGHTING MEASURES

Flash point: Note: does not flash.

TDG Flammability Class: NONE

Suitable extinguishing media: Carbon dioxide (CO2) Dry chemical Foam Water spray

Special protective equipment for fire-fighters: In the event of fire, wear self-contained breathing apparatus.

Further information: Use water spray to cool unopened containers.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Ensure adequate ventilation. Use personal protective equipment.

Methods for cleaning up: Ventilate area. Neutralize with lime milk or soda and flush with plenty of water. Clean up with inert absorbant material. Keep in suitable, closed containers for disposal. Flush with plenty of water.

Additional advice: Never return spills in original containers for re-use.
SECTION 7. HANDLING AND STORAGE

Handling
Handling : Add this product to surface of solution slowly to avoid spattering
Do not add large amounts of product to solution at any one time.
Use with adequate ventilation.

Storage
Requirements for storage areas and containers : KEEP FROM FREEZING
Keep containers dry and tightly closed to avoid moisture absorption and contamination.
Store indoors in a cool, well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<table>
<thead>
<tr>
<th>Component</th>
<th>ACGIH TLV (TWA)</th>
<th>OSHA PEL (TWA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium (III) phosphate</td>
<td>0.5 mg/m³ as Cr</td>
<td>0.5 mg/m³ as Cr</td>
</tr>
<tr>
<td>Chromium (III) nitrate</td>
<td>0.5 mg/m³ as Cr</td>
<td>0.5 mg/m³ as Cr</td>
</tr>
<tr>
<td>Manganese gluconate</td>
<td>0.2 mg/m³ as Mn</td>
<td>5 mg/m³ ceiling</td>
</tr>
<tr>
<td>Manganese (II) citrate</td>
<td>0.2 mg/m³ as Mn</td>
<td>5 mg/m³ ceiling</td>
</tr>
</tbody>
</table>

Eye protection : Chemical resistant goggles must be worn.
Face-shield

Hand protection : Impervious butyl rubber gloves

Skin and body protection : Complete suit protecting against chemicals

Respiratory protection : If the occupational exposure limits cannot be met, in exceptional cases suitable respiratory equipment should be worn only for a short period of time.

Hygiene measures : Avoid contact with skin, eyes and clothing.
Wear suitable gloves and eye/face protection.
Wear suitable protective clothing.
Wash hands before breaks and immediately after handling the product.
Provide adequate ventilation.
Do not inhale fumes.
Keep away from food and drink.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

pH : < 2.5
Freezing point : 0 °C (32 °F)
Boiling point/boiling range : Note: no data available
Vapour pressure : Note: no data available
Bulk density : 10.47 lb/gal
Water solubility : Note: completely soluble
Partition coefficient: n-octanol/water : Note: no data available
Percent of Volatile by Weight excluding water : 0
Relative density : 1.257
Evaporation rate : 1
Note: Water = 1

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid : freezing
Direct sources of heat.
Materials to avoid : Bases
Warning! Do not use together with other products, which may release dangerous gases (chlorine).
Hazardous decomposition products : Acidic fumes
Chromium oxides
Hydrogen, by reaction with metals
Nitrogen Oxides
Phosphorus Oxides
Carbon oxides

SECTION 11. TOXICOLOGICAL INFORMATION

Toxicity: : Mixture; Not Determined.
SECTION 12. ECOLOGICAL INFORMATION

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Advice on Disposal : Refer to all federal, provincial, state and local regulation prior to disposition of container and unused contents by reuse, recycle or disposal.

SECTION 14. TRANSPORT INFORMATION

Refer to Bill of Lading.

SECTION 15. REGULATORY INFORMATION

TSCA Status : All components of this material comply with US TSCA requirements.

SARA 313 Components

- Chromium (III) phosphate CAS-No. 7789-04-0
- Chromium (III) nitrate CAS-No. 13548-38-4
- Manganese gluconate CAS-No. 6485-39-8
- Manganese (II) citrate CAS-No. 10024-66-5

CERCLA Reportable Quantity

- Chromium (III) phosphate 10 Pounds
- Chromium (III) nitrate 10 Pounds

California Prop. 65 : N.D

NFPA : 3 0 0 Corrosive Acid

HMIS : 3 0 0 J

SECTION 16. OTHER INFORMATION

Further information

Chemetall US, Inc. warrants that the products described herein will conform with its published specifications. The products supplied by Chemetall and information related to them are intended for use by buyers having necessary industrial skill and knowledge. Buyers should undertake sufficient verification and testing to determine the suitability of
the Chemetall materials for their own particular purpose. Since buyer's conditions of use of products are beyond Chemetall's control, Chemetall does not warrant any recommendations and information for the use of such products. CHEMETALL DISCLAIMS ALL OTHER WARRANTIES INCLUDING THE IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE IN CONNECTION WITH THE USE OF ITS PRODUCTS.