SAFETY DATA SHEET
DeepTIG™ SS-7
DATE REVISED: December 10, 2018

SECTION 1 -- IDENTIFICATION
Product Name/Part number: DeepTIG™ SS-7
Recommended use: GTA Welding Flux for Carbon Steel Alloys
Manufacturer: Superior Flux & Mfg. Co. Emergency Contact: CHEMTREC
6615 Parkland Blvd Emergency Phone: 1-800-424-9300
Cleveland OH, 44139 For other info: (440) 349-3000

SECTION 2 – HAZARD(S) IDENTIFICATION
Classification of the substance or mixture
GHS Classification in accordance with OSHA HCS (29 CFR 1910)
- Acute toxicity, Oral (Category 3) H301
- Acute toxicity, Inhalation – dust, mist (Category 4) H332
- Respiratory sensitization (Category 1) H334
- Skin sensitization (Category 1) H317
- Carcinogenicity (Category 1A) H350

See below for full text of H-Statement
GHS Label Elements, including precautionary statements
Pictogram(s):

Signal Word: Danger
Hazard Statement(s)
H301 Toxic if swallowed
H317 May cause an allergic skin reaction
H332 Harmful if inhaled
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
H350 May cause cancer

Precautionary statement(s)
P201 Obtain special instructions before use
P202 Do not handle until all safety precautions have been read and understood
P261 Avoid breathing dust or fumes.
P264 Wash hands, forearms, and any exposed skin thoroughly after handling
P270 Do not eat, drink, or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
P272 Contaminated work clothing must not be allowed out of the workplace
P280 Wear protective clothing, protective gloves, eye protection, and face protection
P284 [In case of inadequate ventilation] wear respiratory protection
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor
P302+P352 IF ON SKIN: Wash with plenty of water
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313 If exposed or concerned: Get medical advice.
P312 Call a POISON CENTER or doctor if you feel unwell.
P333+P313 If skin irritation or rash occurs: Get medical advice or attention
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor
P362+P364 Take off contaminated clothing and wash it before reuse.

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P405 Store locked up
P501 Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations.

Hazards not otherwise classified or not covered by GHS: Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.

SECTION 3 – COMPOSITION INFORMATION

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Titanium oxide</td>
<td>12137-20-1</td>
<td>20-60</td>
</tr>
<tr>
<td>Chromium oxide</td>
<td>1308-38-9</td>
<td>0-50</td>
</tr>
<tr>
<td>Silica, amorphous, fumed, crystalline-free</td>
<td>112945-52-5</td>
<td>0-20</td>
</tr>
</tbody>
</table>

Unlisted percentages are non-hazardous stabilizers, and water.

SECTION 4 – FIRST AID MEASURES

Description of first aid measures

General advice: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. Show this safety data sheet to the doctor in attendance.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. If inhaled, remove to fresh air and keep at rest in a position comfortable for breathing. If exposed or concerned: Get medical advice/attention.

Eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Skin: Gently wash with plenty of soap and water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Ingestion: Rinse mouth. Do NOT induce vomiting. Seek medical attention immediately.

Most Important Symptoms and effects, both acute and delayed

In general: Toxic if swallowed. May cause an allergic skin reaction. Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause cancer.

After Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. During welding, the most significant route of exposure is by the inhalation (breathing) of welding fumes. If welding fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur.

After Skin Contact: May cause an allergic skin reaction.
After Eye Contact: May cause eye irritation.
After Ingestion: Toxic if swallowed.
Chronic Symptoms: May cause cancer.

SECTION 5 – FIREFIGHTING MEASURES
Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.
Special Hazards: Use of heavy stream of water may spread fire. Product is not flammable, nor is it explosive. Hazardous reactions will not occur under normal condition.
Special Advice for Firefighters: Exercise caution when fighting any chemical fire. Do not breathe fumes or vapors from fire. Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6 - ACCIDENTAL RELEASE MEASURES
Personal Precautions and Equipment and emergency procedures: Avoid all unnecessary exposure. Do not breathe dust or fumes. Evacuate unnecessary personnel. Ventilate area and equip cleanup crew with proper protection.
See section 8 for personal protection.
Environmental Precautions: Prevent further leakage or spillage if safe to do so. Prevent product from entering sewers and public waters.
In Case Material is spilled: Clear up spills immediately and dispose of waste safely. Keep in suitable, closed containers for disposal according to local regulations. Avoid generation of dust during clean-up

SECTION 7 - HANDLING AND STORAGE
Specific End Use(s): Penetration enhancing compound for GTA Welding of Carbon Steel Alloys. For professional use only.
Precautions for safe handling: Do not handle until all safety precautions and any special instructions have been read and understood. Do not breathe dust or fumes.
General Precautions: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse.
Additional Hazards when Processed: Fumes from welding, or processing of this material can be harmful if inhaled. Risk of electric shock when welding. Arc rays and sparks can burn skin. This product is intended for use in ARC welding. During this process UV rays irritate the superficial corneal epithelium, causing inhibition of mitosis, production of nuclear fragmentation, and loosening of the epithelial layer. Under experimental conditions in animals, phototoxic effects have been demonstrated at all levels of the cornea, including the stroma and endothelium.
For full precaution and hazard statements see Section 2
Storage Requirements: Keep container tightly closed in a dry, cool, and well-ventilated area. Keep container closed when not in use. Store locked up.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION
CONTROL PARAMETERS
<table>
<thead>
<tr>
<th></th>
<th>Silica, amorphous</th>
<th>Chromium oxide (Cr₂O₃)</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA Permissible Exposure Limit (PEL):</td>
<td>5 mg/m³</td>
<td>1 mg/m³</td>
</tr>
</tbody>
</table>

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ACGIH Threshold Limit Value (TLV): 5 mg/m³ 0.05 mg/m³

**Engineering Controls:** Local exhaust and general ventilation must be adequate to meet exposure standards. Site-specific risk assessments should be conducted to determine the appropriate exposure control measures. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Ensure all national/local regulations are observed.

**Respiratory Protection:** During instances of insufficient ventilation or whenever exposure may exceed established Occupational Exposure Limits, use a NIOSH-approved respirator or self-contained breathing apparatus.

**Protective Gloves:** Wear chemically resistant protective gloves. Use proper glove removal techniques (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good lab practices. Wash and dry hands after handling.

**Eye Protection:** Wear goggles with suitable filter lenses when use is cutting or welding.

**Body Protection:** Wear fire/flame resistant/retardant clothing. Protective coveralls and long sleeves is recommended.

Use equipment for protection tested and approved under appropriate government standards such as NIOSH (USA) or EN 166, CEN (EU)

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.
SECTION 9 - PHYSICAL AND CHEMICAL CHARACTERISTICS

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Green Powder</td>
</tr>
<tr>
<td>Odor</td>
<td>None</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/Freezing point</td>
<td>No data available</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate (Butyl Acetate = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (Solid, gas)</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower flammability or explosive limits</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor density (Air = 1)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative density (Water = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble in water</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Will not occur under normal conditions
Stability: Product is stable under recommended storage and handling conditions
Possibility of hazardous reactions: Hazardous polymerization will not occur
Conditions to Avoid: No specific data available
Incompatibility: Strong oxidizers
Hazardous Decomposition Products Carbon oxides (CO, CO₂). Metal oxides. When heated, material emits irritation and harmful fumes.

In the event of fire: See Section 5
SECTION 11 - TOXICOLOGICAL INFORMATION

Likely Route(s) of Exposure: Inhalation, ingestion, skin and eye contact
Acute Toxicity: Toxic if swallowed. Harmful if inhaled.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ATE (Oral)</td>
<td>100.00 mg/kg body weight</td>
</tr>
<tr>
<td>ATE (Dust/Mist)</td>
<td>1.50 mg/L per 4h</td>
</tr>
</tbody>
</table>

Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause and allergic skin reaction.
Germ Cell Mutagenicity: Not classified
Carcinogenicity: May cause cancer: IARC Group 3
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled. During welding, the most significant route of exposure is by the inhalation (breathing) of welding fumes. If welding fumes are inhaled, they can cause a condition commonly known as metal fume fever with symptoms which resemble influenza. Symptoms may be delayed 4-12 hours and begin with a sudden onset of thirst, and a sweet, metallic or foul taste in the mouth. Other symptoms may include upper respiratory tract irritation accompanied by coughing and a dryness of the mucous membranes, lassitude and a generalized feeling of malaise. Fever, chills, muscular pain, mild to severe headache, nausea, occasional vomiting, exaggerated mental activity, profuse sweating, excessive urination, diarrhea and prostration may also occur.

Symptoms/Injuries After Skin Contact: May cause an allergic skin reaction.
Symptoms/Injuries After Eye Contact: May cause eye irritation.
Symptoms/Injuries After Ingestion: Toxic if swallowed.
Chronic Symptoms: May cause cancer.

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity: No data available
Persistence and degradability: No data available
Bioaccumulative potential: No data available
Mobility in soil: No data available
Other adverse effects: Avoid release into the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal: Offer surplus and non-recyclable solutions to a licensed professional waste disposal company. Avoid release to the environment.

SECTION 14 - TRANSPORTATION

D.O.T., IMDG and IATA: Not regulated for transport
SECTION 15 - REGULATORY INFORMATION

SARA 311/312 Hazards  Immediate (acute) health hazard, Delayed (chronic) health hazard

Substances listed on the U.S. Toxic Substances Control Act (TSCA) inventory:

<table>
<thead>
<tr>
<th>Substance</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chromium oxide</td>
<td>1308-38-9</td>
</tr>
<tr>
<td>Titanium oxide</td>
<td>12137-20-1</td>
</tr>
</tbody>
</table>

Substances listed on U.S. State Regulation lists:

<table>
<thead>
<tr>
<th>List</th>
<th>Substance</th>
<th>CAS No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Massachusetts – Right to Know List</td>
<td>Chromium oxide</td>
<td>1308-38-9</td>
</tr>
<tr>
<td>New Jersey – Right to Know</td>
<td>Chromium oxide</td>
<td>1308-38-9</td>
</tr>
<tr>
<td>Hazardous Substance List</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 16 - OTHER INFORMATION

Further information:

Judgments as to the suitability of information herein or the purchaser's purposes are necessarily the purchaser's responsibility. The above information does not represent any guarantee of the properties of the product. It is believed to be correct, but does not purport to be all inclusive and should be used only as a guide. Reasonable care has been taken in the preparation of this material, and is based on the present state of our knowledge.

Superior Flux & Mfg. Co. shall not be held liable for any damage resulting from handling or from contact with the above product. There are NO WARRANTIES, NO REPRESENTATIONS AND NO RESPONSIBILITY AS TO THE ACCURACY OR THE SUITABILITY OF THIS INFORMATION FOR ANY PURCHASER'S USE OR FOR ANY CONSEQUENCE TO USE.

Reference(s):
EWI SDS – SS7

Preparation information
Superior Flux & Mfg. Co.
440-349-3000