1 Identification

- **Product Identifier**
  - **Trade name:** Special Metal Solvent Rust Treatment No. 8
  - **Relevant identified uses of the substance or mixture and uses advised against:**
    Water treatment chemical.
  - **Product Description** Water treatment for steam boilers to prevent corrosion, rust, and scale buildup.

- **Details of the Supplier of the Safety Data Sheet:**
  - **Manufacturer/Supplier:** C & S Chemical Supply Co.
    546 W Main St. Norman, Ok 73069
    405-664-3908 or 405-664-0755
dbormann@cox.net
  - **Emergency telephone number:** David Bormann 405-664-3908

2 Hazard(s) Identification

- **Classification of the substance or mixture:**
  - GHS05 Corrosion
  - Skin Corr. 1A H314 Causes severe skin burns and eye damage.
  - Eye Dam. 1 H318 Causes serious eye damage.

- **Label elements:**
  - **GHS label elements**
    The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms:**
  - GHS05

- **Signal word:** Danger

- **Hazard-determining components of labeling:**
  - Trade Secret
  - Trade Secret

- **Hazard statements:**
  - H314 Causes severe skin burns and eye damage.

- **Precautionary statements:**
  - P260 Do not breathe dusts or mists.
  - P280 Wear eye protection / face protection.
  - P264 Wash thoroughly after handling.
  - P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
  - P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P310 Immediately call a POISON CENTER/doctor.
  - P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
  - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P363 Wash contaminated clothing before reuse.
  - P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.

(Contd. on page 2)
**Trade name: Special Metal Solvent Rust Treatment No. 8**

P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- **Unknown acute toxicity:**
  1.4 % of the mixture consists of component(s) of unknown toxicity.

- **Classification system:**
  - NFPA ratings (scale 0 - 4)
    Health = 3
    Fire = 0
    Reactivity = 0

  - HMIS-ratings (scale 0 - 4)
    HEALTH Health = 4
    FIRE Fire = 0
    REACTIVITY Reactivity = 0

- **Hazard(s) not otherwise classified (HNOC):** None known

**3 Composition/Information on Ingredients**

- **Chemical characterization:** Mixtures
- **Description:** Mixture of substances listed below with non-hazardous additions.

  - **Dangerous Components:**
    | Substance | Health | Fire | Reactivity | Amount |
    |-----------|--------|------|------------|--------|
    | Trade Secret | Eye Irrit. 2, H319 | 2-12% |
    | Trade Secret | Skin Corr. 1A, H314; Eye Dam. 1, H318 | 2-12% |
    | Trade Secret | Eye Irrit. 2A, H319 | 2-12% |
    | Trade Secret | Skin Corr. 1A, H314 | ≤ 2.5% |
    | Trade Secret |              |      |            | ≤ 2.5% |

- **Additional information:**
  The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

**4 First-Aid Measures**

- **Description of first aid measures:**
  - **General information:**
    Immediately remove any clothing soiled by the product.
    Symptoms of poisoning may occur after exposure to dust, fumes or particulates; seek medical attention if feeling unwell.

  - **After inhalation:**
    Supply fresh air. If required, provide artificial respiration. Consult doctor if symptoms persist.
    In case of unconsciousness place patient stably in side position for transportation.

  - **After skin contact:**
    Immediately wash skin with soap and plenty of water for at least 15 minutes.
    Remove contaminated clothing and wash before reuse.
    Get medical attention if symptoms occur.

  - **After eye contact:**
    Hold eyelids apart and flush eyes with plenty of water for at least 20 minutes.
    Seek immediate medical advice.
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OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

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- **After swallowing:** Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- **Information for doctor:**
  - **Most important symptoms and effects, both acute and delayed:** No further relevant information available.
  - **Indication of any immediate medical attention and special treatment needed:** No further relevant information available.

### 5 Fire-Fighting Measures

- **Extinguishing media:**
  - **Suitable extinguishing agents:**
    - CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
  - **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters:**
  - **Protective equipment:**
    - As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**
  - Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**
  - Inform respective authorities in case of seepage into water course or sewage system.
  - Dilute with plenty of water.
  - Do not allow to enter sewers/surface or ground water.
- **Methods and material for containment and cleaning up:**
  - Ensure adequate ventilation.
  - Use neutralizing agent.
  - Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).
  - Dispose contaminated material as waste according to section 13.
- **Reference to other sections:**
  - See Section 7 for information on safe handling.
  - See Section 8 for information on personal protection equipment.
  - See Section 13 for disposal information.

### 7 Handling and Storage

- **Handling**
  - **Precautions for safe handling:**
    - Ensure good ventilation/exhaustion at the workplace.
    - Open and handle receptacle with care.
    - Prevent formation of aerosols.
  - **Information about protection against explosions and fires:** Keep protective respiratory device available.
  - **Conditions for safe storage, including any incompatibilities:**
    - **Storage**
      - **Requirements to be met by storerooms and receptacles:** No special requirements.
      - **Information about storage in one common storage facility:** Do not store together with acids.
      - **Further information about storage conditions:** Keep receptacle tightly sealed.
      - **Specific end use(s):** No further relevant information available.

### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.

(Contd. on page 4)
Control parameters:

Components with occupational exposure limits:
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 2 mg/m³</td>
<td>Ceiling limit value: 2 mg/m³</td>
<td>Ceiling limit value: 2 mg/m³</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Component</th>
<th>PEL</th>
<th>REL</th>
<th>TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Long-term value: 5 mg/m³</td>
<td>Ceiling limit value: 2 mg/m³</td>
<td>TLV withdrawn</td>
</tr>
</tbody>
</table>

Additional information: The lists that were valid during the creation of this SDS were used as basis.

Exposure controls:

Personal protective equipment:

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing and wash before reuse.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Avoid contact with the eyes and skin.

Breathing equipment: Not required.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Select glove material based on penetration times, rates of diffusion and degradation.

Material of gloves:
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Penetration time of glove material:
The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

Eye protection:

Tightly sealed goggles

(Contd. on page 5)
9 Physical and Chemical Properties

- General Information
  - Appearance:
    - Form: Liquid
    - Color: Dark green
    - Odor: Earthy
    - Odor threshold: Not determined.
  - pH-value @ 20 °C (68 °F): 12-13

- Melting point/Melting range: Not determined.
- Boiling point/Boiling range: 100 °C (212 °F)
- Flash point: None

- Flammability (solid, gaseous): Not applicable.
- Ignition temperature: Not determined.
- Decomposition temperature: Not determined.
- Auto igniting: Product is not self-igniting.
- Danger of explosion: Product does not present an explosion hazard.

- Explosion limits:
  - Lower: Not determined.
  - Upper: Not determined.

- Vapor pressure @ 20 °C (68 °F): 23 hPa (17 mm Hg)
- Density @ 20 °C (68 °F): 1.2 g/cm³ (10.014 lbs/gal)
- Relative density: Not determined.
- Vapor density: Not determined.
- Evaporation rate: Not determined.
- Solubility in / Miscibility with:
  - Water: Soluble.

- Partition coefficient (n-octanol/water): Not determined.

- Viscosity:
  - Dynamic: Not determined.
  - Kinematic: Not determined.

- Other information: No further relevant information available.

10 Stability and Reactivity

- Reactivity: No further relevant information available.
- Chemical stability: Stable under normal conditions.
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- Possibility of hazardous reactions: No dangerous reactions known.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: Incompatible with acids
- Hazardous decomposition products: No dangerous decomposition products known.

(Contd. on page 6)
11 Toxicological Information

- Information on toxicological effects:
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      Trade Secret
      | Route            | LD50      | LC50/96 hours |
      |------------------|-----------|--------------|
      | Oral             | 4090 mg/kg (rat) |
      | Inhalative       | 300 mg/l (Fathead Minnow) |
      Trade Secret
      | Oral             | 7400 mg/kg (rat) |
      Trade Secret
      | Oral             | 4320 mg/kg (mouse) |
      | Intravenous      | 6200 mg/kg (rat) |
      |                   | 62 mg/kg (mouse) |
      Trade Secret
      | Oral             | 2000 mg/kg (rat) |
  
- Primary irritant effect:
  - On the skin: Strong caustic effect on skin and mucous membranes.
  - On the eye: Strong irritant with the danger of severe eye injury. Corrosive effect.
    Causes serious eye irritation.
  - Additional toxicological information:
    The product shows the following dangers according to internally approved calculation methods for preparations:
    Corrosive
    Irritant
    Swallowing will lead to a corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- Carcinogenic categories:
  - IARC (International Agency for Research on Cancer):
    None of the ingredients are listed.
  - NTP (National Toxicology Program):
    None of the ingredients are listed.
  - OSHA-Ca (Occupational Safety & Health Administration):
    None of the ingredients are listed.

12 Ecological Information

- Toxicity:
  - Aquatic toxicity:
    Trade Secret
    EC50 227 mg/l (daphnia)
    Trade Secret
    EC50 40 mg/l (daphnia)
  - Persistence and degradability: No further relevant information available.

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Trade name: Special Metal Solvent Rust Treatment No. 8

- **Behavior in environmental systems:**
  - **Bioaccumulative potential:** No further relevant information available.
  - **Mobility in soil:** No further relevant information available.
  - **Additional ecological information:**
    - **General notes:**
      Water hazard class 3 (Self-assessment): extremely hazardous for water
      Do not allow product to reach ground water, water course or sewage system, even in small quantities.
      Must not reach bodies of water or drainage ditch undiluted or unneutralized.
      Danger to drinking water if even extremely small quantities leak into the ground.
      Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Results of PBT and vPvB assessment:**
  - **PBT:** Not applicable.
  - **vPvB:** Not applicable.
  - **Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

- **Waste treatment methods:**
  - **Recommendation:**
    Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
    Observe all federal, state and local environmental regulations when disposing of this material.

- **Uncleaned packagings**
  - **Recommendation:** Disposal must be made according to official regulations.
  - **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

- **UN-Number:**
  - **DOT, ADR, IMDG, IATA**
    - UN3266
  - **UN proper shipping name:**
    - **DOT**
      Corrosive liquid, basic, inorganic, n.o.s. (Trade Secret)
    - **ADR**
      UN3266 Corrosive liquid, basic, inorganic, n.o.s. (Trade Secret)
    - **IMDG, IATA**
      CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Trade Secret)

- **Transport hazard class(es):**
  - **DOT**
    - **Class:** 8 Corrosive substances
    - **Label:** 8
  - **ADR, IMDG, IATA**
    - **Class:** 8 Corrosive substances
    - **Label:** 8

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Trade name: Special Metal Solvent Rust Treatment No. 8

- Packing group: II
- DOT, ADR, IMDG, IATA
- Environmental hazards: Not applicable.
- Special precautions for user: Warning: Corrosive substances
- EMS Number: F-A,S-B
- Segregation groups: Alkalis
- Stowage Category: A
- Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code: Not applicable.

- Transport/Additional information:
  - ADR
  - Excepted quantities (EQ):
    Code: E2
    Maximum net quantity per inner packaging: 30 ml
    Maximum net quantity per outer packaging: 500 ml
  - UN "Model Regulation": UN 3266 CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (TRADE SECRET), 8, II

15 Regulatory Information

- Safety, health and environmental regulations/legislation specific for the substance or mixture:
  - SARA (Superfund Amendments and Reauthorization):
    - Section 355 (extremely hazardous substances):
      None of the ingredients are listed.
    - Section 313 (Specific toxic chemical listings):
      7758-29-4 Pentasodium triphosphate
  - TSCA (Toxic Substances Control Act):
    Trade Secret
    Trade Secret
    Trade Secret
  - California Proposition 65:
    - Chemicals known to cause cancer:
      None of the ingredients are listed.
    - Chemicals known to cause reproductive toxicity for females:
      None of the ingredients are listed.
    - Chemicals known to cause reproductive toxicity for males:
      None of the ingredients are listed.
    - Chemicals known to cause developmental toxicity:
      None of the ingredients are listed.
  - New Jersey Right-to-Know List:
    Trade Secret
    Trade Secret
  - New Jersey Special Hazardous Substance List:
    Trade Secret

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- **Pennsylvania Right-to-Know List:**
  - Trade Secret
  - Trade Secret
  - Trade Secret

- **Pennsylvania Special Hazardous Substance List:**
  - Trade Secret
  - Trade Secret

- **Carcinogenic categories:**

- **EPA (Environmental Protection Agency):**
  None of the ingredients are listed.

- **TLV (Threshold Limit Value established by ACGIH):**
  None of the ingredients are listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health):**
  None of the ingredients are listed.

- **GHS label elements**
  - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - **Hazard pictograms:**
    - GHS05

- **Signal word:** Danger

- **Hazard-determining components of labeling:**
  - Trade Secret
  - Trade Secret

- **Hazard statements:**
  - H314 Causes severe skin burns and eye damage.

- **Precautionary statements:**
  - P260 Do not breathe dusts or mists.
  - P280 Wear eye protection / face protection.
  - P264 Wash thoroughly after handling.
  - P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
  - P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P310 Immediately call a POISON CENTER/doctor.
  - P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
  - P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P363 Wash contaminated clothing before reuse.
  - P301+P330+P331 If swallowed: Rinse mouth. Do NOT induce vomiting.
  - P405 Store locked up.
  - P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

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Reviewed on 06/01/2016

Trade name: Special Metal Solvent Rust Treatment No. 8

- **National regulations:**

  The product is subject to be classified according with the latest version of the regulations on hazardous substances.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision:** 06/01/2016 / 3

- **Abbreviations and acronyms:**
  - ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road
  - ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - PBT: Persistent, Bioaccumulative and Toxic
  - vPvB: very Persistent and very Bioaccumulative
  - NIOSH: National Institute for Occupational Safety
  - OSHA: Occupational Safety & Health
  - TLV: Threshold Limit Value
  - REL: Recommended Exposure Limit
  - Skin Corr. 1A: Skin corrosion/irritation – Category 1A
  - Eye Dam. 1: Serious eye damage/eye irritation – Category 1
  - Eye Dam. 2: Serious eye damage/eye irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

- **Data compared to the previous version altered.**

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