SAFETY DATA SHEET

1. Identification

Product identifier
BRIDGIT® WATER SOLUBLE PASTE FLUX

Other means of identification
SDS number 0018WS
Chemical Class Inorganic Chloride
Recommended use Metal soldering operations.
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information
Manufacturer/Supplier Harris Products Group
4501 Quality Place
Mason, Ohio 45040 US
custservmason@jwharris.com

Telephone number 513-754-2000
Emergency Telephone Numbers 1-888-609-1762 (US, Canada, Mexico only)

Please quote 333988

2. Hazard(s) identification

Not classified.

Physical hazards

Health hazards
Acute toxicity, oral Category 4
Acute toxicity, inhalation Category 4
Skin corrosion/irritation Category 1B
Serious eye damage/eye irritation Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

OSHA defined hazards
Not classified.

Label elements

Signal word Danger

Hazard statement Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage. May cause respiratory irritation.

Precautionary statement

Prevention Do not breathe mist or vapor. Use only outdoors or in a well-ventilated area. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. 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. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.

Storage Store locked up. Store in a well-ventilated place. Keep container tightly closed.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC) None known.

3. Composition/information on ingredients

Mixtures
Chemical name | CAS number | %
--- | --- | ---
Ammonium chloride | 12125-02-9 | Proprietary
Parrafinic Hydrocarbons | N/A | N/A
Surfactant Blend | N/A | N/A

**Composition comments**
All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

The specific chemical identity and/or exact percentage of component(s) have been withheld as a trade secret.

**4. First-aid measures**

**Inhalation**
Move to fresh air immediately. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

**Skin contact**
Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention immediately. Wash clothing separately before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Ingestion**
Call a physician immediately. Rinse mouth thoroughly. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do NOT induce vomiting. Do not use mouth-to-mouth method if victim ingested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed**
Burning pain and severe corrosive skin damage. Dermatitis. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Upper respiratory tract irritation. Coughing. Difficulty in breathing. Headache. Dizziness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**5. Fire-fighting measures**

**Suitable extinguishing media**

**Unsuitable extinguishing media**
None known.

**Specific hazards arising from the chemical**
Irritating and toxic gases or fumes may be released during a fire. Product may produce a floating fire. Ammonia. Hydrogen Chloride (HCl). Various organic fumes.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
This product must be substantially preheated before ignition can occur. If involved in a fire, this product may decompose to produce irritating vapors and toxic gases, including hydrogen chloride and ammonia.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Wear appropriate protective equipment and clothing during clean-up. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
This product is miscible in water.

Large Spills: Stop the flow of material, if this is without risk. Use water spray to reduce vapors or divert vapor cloud drift. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Provide adequate ventilation. Do not ingest. Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not get this material on clothing. When using do not eat or drink. Avoid prolonged exposure. Wear appropriate personal protective equipment. Wash thoroughly after handling. Wash contaminated clothing before reuse. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep container tightly closed. Store in a well-ventilated place. Keep in cool, dry location far from heat source and flame. Keep out of the reach of children. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
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<tbody>
<tr>
<td>Ammonium chloride (CAS 12125-02-9)</td>
<td>STEL</td>
<td>20 mg/m³</td>
<td>Fume.</td>
</tr>
<tr>
<td></td>
<td>TWA</td>
<td>10 mg/m³</td>
<td>Fume.</td>
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US. NIOSH: Pocket Guide to Chemical Hazards

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Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear safety glasses with side shields (or goggles). When these products are used in conjunction with soldering, it is recommended that safety glasses, goggles, or face-shield with filter lens of appropriate shade number (per ANSI Z49.1-1988, “Safety in Welding and Cutting”) be worn.

Skin protection

Hand protection

Wear nitrile or neoprene gloves for routine industrial use. Use triple gloves for spill response.

Other

Wear suitable protective clothing. When these products are used in conjunction with soldering, wear protective clothing that protects from sparks and flame (per ANSI Z49.1-1988, “Safety in Welding and Cutting”).

Respiratory protection

Monitor oxygen level in the presence of this mixture. If oxygen level is 19.5% or less, a SCBA or airline respirator with escape bottle is required.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Yellow paste.
Physical state: Liquid.
Form: Paste.
Color: Yellow.
Odor: Petroleum odor.
Odor threshold: Not available.
pH: Not applicable.
Melting point/freezing point: Not available.
Initial boiling point and boiling range: 140 °F (60 °C) (Decomposes).
Flash point: 482.0 °F (250.0 °C)
Evaporation rate: < 1 (butyl acetate=1)
Flammability (solid, gas): Not available.
Upper/lower flammability or explosive limits:
  Flammability limit - lower (%): Not available.
  Flammability limit - upper (%): Not available.
  Explosive limit - lower (%): Not available.
  Explosive limit - upper (%): Not available.
Vapor pressure: < 1 mm Hg
Vapor density: Not available.
Relative density: 0.98
Solubility(ies):
  Solubility (water): Nearly complete.
Partition coefficient (n-octanol/water): Not available.
Auto-ignition temperature: Not available.
Decomposition temperature: Not available.
Viscosity: Not available.
Other information:
  VOC (Weight %): 0.3 g/l

10. Stability and reactivity
Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability: Material is stable under normal conditions.
Possibility of hazardous reactions: Hazardous polymerization will not occur.
Conditions to avoid: Uncontrolled exposure to extreme temperatures, incompatible materials.

11. Toxicological information
Information on likely routes of exposure:
  Inhalation: Harmful if inhaled. May cause respiratory tract irritation. Prolonged inhalation may be harmful.
  Skin contact: Causes severe skin burns. Prolonged skin contact may cause dermatitis.
  Eye contact: Causes serious eye damage.
  Ingestion: Harmful if swallowed. This product is not intended to be ingested or eaten. If gastric disturbance occurs, call physician.
Symptoms related to the physical, chemical and toxicological characteristics:
  Burning pain and severe corrosive skin damage. Dermatitis. Rash. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Respiratory tract irritation. Coughing. Difficulty in breathing. Headache. Dizziness. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.
Information on toxicological effects

**Acute toxicity**
Harmful if swallowed. Harmful if inhaled. Causes severe skin burns and eye damage.

**Components**

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
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<tbody>
<tr>
<td><strong>Ammonium chloride (CAS 12125-02-9)</strong></td>
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<tr>
<td><strong>Acute</strong></td>
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</tr>
<tr>
<td><strong>Oral</strong></td>
<td></td>
</tr>
<tr>
<td>LD50 Rat</td>
<td>1650 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Causes severe skin burns. Prolonged skin contact may cause dermatitis.

**Serious eye damage/eye irritation**
Causes serious eye damage.

**Respiratory or skin sensitization**

- **Respiratory sensitization**
  Not a respiratory sensitizer.
- **Skin sensitization**
  This product is not expected to cause skin sensitization.
- **Germ cell mutagenicity**
  No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.
- **Carcinogenicity**
  This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Not listed.

**Reproductive toxicity**
This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure**
May cause irritation of respiratory tract.

**Specific target organ toxicity - repeated exposure**
Not classified.

**Aspiration hazard**
Not an aspiration hazard.

**Chronic effects**
Prolonged inhalation may be harmful. Liver and kidney effects are only expected to occur if exposure concentrations are very high.

12. Ecological information

**Ecotoxicity**
No ecotoxicity data noted for the ingredient(s).

**Persistence and degradability**
No data is available on the degradability of this product.

**Bioaccumulative potential**
No data available.

**Mobility in soil**
No data available.

**Other adverse effects**
No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

**Disposal instructions**
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations**
Dispose in accordance with all applicable regulations.

**Hazardous waste code**
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products**
Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**
Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

**DOT**
Not regulated as dangerous goods.

**IATA**
Not regulated as dangerous goods.

**IMDG**
Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

15. Regulatory information

US federal regulations

All components are on the U.S. EPA TSCA Inventory List. This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)  
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1200)  
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)  
Ammonium chloride (CAS 12125-02-9) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance  
Not listed.

SARA 311/312 Hazardous chemical  
Yes

SARA 313 (TRI reporting)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS number</th>
<th>% by wt.</th>
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<tbody>
<tr>
<td>Ammonium chloride</td>
<td>12125-02-9</td>
<td>Proprietary</td>
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Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List  
Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)  
Not regulated.

Safe Drinking Water Act (SDWA)  
Not regulated.

US state regulations

US. Massachusetts RTK - Substance List  
Ammonium chloride (CAS 12125-02-9)

US. New Jersey Worker and Community Right-to-Know Act  
Ammonium chloride (CAS 12125-02-9)

US. Pennsylvania Worker and Community Right-to-Know Law  
Ammonium chloride (CAS 12125-02-9)

US. Rhode Island RTK  
Ammonium chloride (CAS 12125-02-9)

US. California Proposition 65  
WARNING: This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

International Inventories

<table>
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<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
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</thead>
<tbody>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
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</tbody>
</table>

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s). A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).
16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue date</th>
<th>06-July-2015</th>
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<tbody>
<tr>
<td>Revision date</td>
<td>-</td>
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<tr>
<td>Version #</td>
<td>01</td>
</tr>
<tr>
<td>NFPA ratings</td>
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Disclaimer

Harris Products Group cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user’s responsibility to ensure safe conditions for use, handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available. The information in the sheet was written based on the best knowledge and experience currently available.