1 Identification

- Product identifier
- Trade name: GRIFFON S-39 UNIVERSAL PASTA-R POT 200G*12 L222
- Application of the substance / the mixture: Soldering flux
- Details of the supplier of the safety data sheet
  - Manufacturer/Supplier: Bison International
  - Dr. A. F. Philipsstraat 9
  - NL-4462 EW Goes
  - PO Box 160
  - NL-4460 AD Goes
  - tel. +31 88 3235700
  - fax. +31 88 3235800
  - e mail: sds@boltonadhesives.com
- Information department: Bison QESH
- Emergency telephone number: +31 88 3235700. Operating hours mo-fr 08:00h-17:00h (CET)

2 Hazard(s) identification

- Classification of the substance or mixture
  - GHS07
  - Skin Irrit. 2  H315  Causes skin irritation.
  - Eye Irrit. 2A  H319  Causes serious eye irritation.
  - STOT SE 3  H335  May cause respiratory irritation.

- Label elements
  - GHS label elements
    - The product is classified and labeled according to the Globally Harmonized System (GHS).
  - Hazard pictograms
    - GHS07

- Signal word: Warning

- Hazard-determining components of labeling:
  - zinc chloride

- Hazard statements
  - H315 Causes skin irritation.
  - H319 Causes serious eye irritation.
  - H335 May cause respiratory irritation.

- Precautionary statements
  - P271 Use only outdoors or in a well-ventilated area.
  - P280 Wear protective gloves / eye protection.
  - P312 Call a poison center/doctor if you feel unwell.
  - P501 Dispose of contents/container in accordance with national regulations.

(Contd. on page 2)
Safety Data Sheet
acc. to OSHA HCS

Printing date 05/23/2019
Reviewed on 05/23/2019

Trade name: GRIFFON S-39 UNIVERSAL PASTA-R POT 200G*12 L222

Classification system:
- NFPA ratings (scale 0 - 4)
  - Health = 2
  - Fire = 0
  - Reactivity = 0
- HMIS-ratings (scale 0 - 4)
  - HEALTH
    - Health = 2
  - FIRE
    - Fire = 0
  - REACTIVITY
    - Reactivity = 0

Other hazards
- Results of PBT and vPvB assessment
  - PBT: Not applicable.
  - vPvB: Not applicable.

3 Composition/information on ingredients
- Chemical characterization: Mixtures
- Description: Soldering flux
- Dangerous components:
  - 7646-85-7 zinc chloride 10-25%
  - 12125-02-9 ammonium chloride 2.5-10%

4 First-aid measures
- Description of first aid measures
  - General information: No special measures required.
  - After inhalation:
    - Call a doctor immediately.
    - In case of unconsciousness place patient stably in side position for transportation.
  - After skin contact:
    - Immediately wash with water and soap and rinse thoroughly.
  - After eye contact:
    - Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
  - After swallowing:
    - Rinse out mouth and then drink plenty of water.
  - 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: Use fire fighting measures that suit the environment.
Safety Data Sheet
acc. to OSHA HCS

Trade name: GRIFFON S-39 UNIVERSAL PASTA-R POT 200G*12 L222

Special hazards arising from the substance or mixture
No further relevant information available.

Advice for firefighters
Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions: Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Send for recovery or disposal in suitable receptacles.
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
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.

Protective Action Criteria for Chemicals

PAC-1:
- 7646-85-7 zinc chloride 2 mg/m³
- 12125-02-9 ammonium chloride 20 mg/m³
- 547-58-0 sodium 4-(4-dimethylaminophenylazo)benzenesulphonate 0.18 mg/m³

PAC-2:
- 7646-85-7 zinc chloride 800 mg/m³
- 12125-02-9 ammonium chloride 54 mg/m³
- 547-58-0 sodium 4-(4-dimethylaminophenylazo)benzenesulphonate 2 mg/m³

PAC-3:
- 7646-85-7 zinc chloride 4,800 mg/m³
- 12125-02-9 ammonium chloride 330 mg/m³
- 547-58-0 sodium 4-(4-dimethylaminophenylazo)benzenesulphonate 12 mg/m³

7 Handling and storage

Handling:
Precautions for safe handling No special precautions are necessary if used correctly.
Information about protection against explosions and fires: No special measures required.

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: Not required.
Further information about storage conditions: Keep receptacle tightly sealed.
Storage class: 12
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 item 7.
- Control parameters
- Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>12125-02-9 ammonium chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>REL</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>TLV</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

- Additional information: The lists that were valid during the creation 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.
    Wash hands before breaks and at the end of work.
    Avoid contact with the eyes and skin.
  - Breathing equipment: Suitable respiratory protective device recommended.
  - Protection of hands:

  Protective gloves

  The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
  Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
  - Material of gloves
    Recommended thickness of the material: > 0.12 mm
    Nitrile rubber, NBR
  - Penetration time of glove material
    For the mixture of chemicals mentioned below the penetration time has to be at least 10 minutes
    (Permeation according to EN 374 Part 3: Level 1).
  - Eye protection:

  Tightly sealed goggles

  Goggles recommended during refilling.
  - Body protection: Use protective suit.
### 9 Physical and chemical properties

- **Appearance:**
  - **Form:** Fluid
  - **Color:** According to product specification
  - **Odor:** Characteristic
  - **Odor threshold:** Not determined.

- **pH-value at 20 °C (68 °F):** 2

- **Change in condition**
  - **Melting point/Melting range:** Undetermined.
  - **Boiling point/Boiling range:** 100 °C (212 °F)

- **Flash point:** Not applicable.

- **Flammability (solid, gaseous):** Not applicable.

- **Decomposition temperature:** Not determined.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product does not present an explosion hazard.

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

- **Vapor pressure at 20 °C (68 °F):** 1 hPa (0.8 mm Hg)

- **Density at 20 °C (68 °F):** 1.088 g/cm³ (9.079 lbs/gal)
  - **Relative density:** Not determined.
  - **Vapor density:** Not determined.
  - **Evaporation rate:** Not determined.

- **Solubility in / Miscibility with Water:** Not miscible or difficult to mix.

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

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

- **Solvent content:**
  - **Water:** 8.2 %
  - **VOC content:** 0.00 %

- **Solids content:** 92.0 %

- **Other information**
  All relevant physical data were determined for the mixture. All non-determined data are not measurable or not relevant for the characterization of the mixture.
10 Stability and reactivity

- Reactivity: No further relevant information available.
- Chemical stability
- Thermal decomposition / conditions to be avoided:
  No decomposition if used according to specifications.
- Possibility of hazardous reactions: Corrosive action on metals.
- Conditions to avoid: No further relevant information available.
- Incompatible materials: No further relevant information available.
- Hazardous decomposition products: Danger of toxic pyrolysis products.

11 Toxicological information

- Information on toxicological effects
  - Acute toxicity:
    - LD/LC50 values that are relevant for classification:
      7646-85-7 zinc chloride
      Oral LD50 350 mg/kg (rat)
      12125-02-9 ammonium chloride
      Oral LD50 1650 mg/kg (rat)
    - Primary irritant effect:
      - on the skin: Irritant to skin and mucous membranes.
      - on the eye: Irritating effect.
      - Sensitization: No sensitizing effects known.
    - Additional toxicological information:
      The product shows the following dangers according to internally approved calculation methods for preparations:
      Irritant
    - Carcinogenic categories
      - IARC (International Agency for Research on Cancer)
        None of the ingredients is listed.
      - NTP (National Toxicology Program)
        None of the ingredients is listed.
      - OSHA-Ca (Occupational Safety & Health Administration)
        None of the ingredients is listed.

12 Ecological information

- Toxicity
  - Aquatic toxicity: No further relevant information available.
  - Persistence and degradability: No further relevant information available.
- Behavior in environmental systems:
  - Bioaccumulative potential: No further relevant information available.
  - Mobility in soil: 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. Disposal must be made according to official regulations.

- **Uncleaned packagings:**
  - **Recommendation:**
    Packagings that cannot be cleansed are to be disposed of in the same manner as the product.

14 Transport information

- **UN-Number**
  - DOT, ADR/ADN, IMDG, IATA: UN3082

- **UN proper shipping name**
  - DOT: Environmentally hazardous substance, liquid, n.o.s. (Zinc chloride)
  - ADR/ADN: 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC CHLORIDE)
  - IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC CHLORIDE), MARINE POLLUTANT
  - IATA: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC CHLORIDE)

- **Transport hazard class(es)**
  - DOT, IMDG, IATA: 9 Miscellaneous dangerous substances and articles
### Safety Data Sheet

**Trade name:** GRIFFON S-39 UNIVERSAL PASTA-R POT 200G*12 L222

<table>
<thead>
<tr>
<th><strong>Label</strong></th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ADR/ADN</strong></td>
<td><img src="image" alt="Symbol" /></td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>9 (M6) Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td><strong>Label</strong></td>
<td>9</td>
</tr>
<tr>
<td><strong>Packing group</strong></td>
<td>DOT, ADR/ADN, IMDG, IATA</td>
</tr>
<tr>
<td><strong>Class</strong></td>
<td>III</td>
</tr>
<tr>
<td><strong>Environmental hazards:</strong></td>
<td>Product contains environmentally hazardous substances: zinc chloride</td>
</tr>
<tr>
<td><strong>Marine pollutant:</strong></td>
<td>Yes</td>
</tr>
<tr>
<td><strong>Symbol (fish and tree)</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Special marking (ADR/ADN):</strong></td>
<td>Symbol (fish and tree)</td>
</tr>
<tr>
<td><strong>Special marking (IATA):</strong></td>
<td>Symbol (fish and tree)</td>
</tr>
<tr>
<td><strong>Special precautions for user</strong></td>
<td>Warning: Miscellaneous dangerous substances and articles</td>
</tr>
<tr>
<td><strong>Danger code (Kemler):</strong></td>
<td>90</td>
</tr>
<tr>
<td><strong>EMS Number:</strong></td>
<td>F-A,S-F</td>
</tr>
<tr>
<td><strong>Stowage Category</strong></td>
<td>A</td>
</tr>
<tr>
<td><strong>Stowage Code</strong></td>
<td>SW2 Clear of living quarters.</td>
</tr>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Transport/Additional information:</strong></td>
<td></td>
</tr>
<tr>
<td><strong>DOT</strong></td>
<td>On passenger aircraft/rail: No limit</td>
</tr>
<tr>
<td><strong>Quantity limitations</strong></td>
<td>On cargo aircraft only: No limit</td>
</tr>
<tr>
<td><strong>Remarks:</strong></td>
<td>Special marking with the symbol (fish and tree).</td>
</tr>
<tr>
<td><strong>ADR/ADN</strong></td>
<td>Code: E1</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td><strong>IMDG</strong></td>
<td>Code: E1</td>
</tr>
<tr>
<td><strong>Limited quantities (LQ)</strong></td>
<td>5L</td>
</tr>
<tr>
<td><strong>Excepted quantities (EQ)</strong></td>
<td>Maximum net quantity per inner packaging: 30 ml</td>
</tr>
<tr>
<td></td>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
</tr>
<tr>
<td><strong>Remarks:</strong></td>
<td>Under certain conditions substances in Class 3 (flammable liquids) can be classified in packinggroup III.</td>
</tr>
</tbody>
</table>

See IMDG, Part 2, Chapter 2.3, Paragraph 2.3.2.2.
15 Regulatory information

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

  - Section 355 (extremely hazardous substances):
    None of the ingredients is listed.

  - Section 313 (Specific toxic chemical listings):
    7646-85-7 zinc chloride

- TSCA (Toxic Substances Control Act):
  All ingredients are listed.

- Hazardous Air Pollutants
  None of the ingredients is listed.

- Proposition 65
  - Chemicals known to cause cancer:
    None of the ingredients is listed.

  - Chemicals known to cause reproductive toxicity for females:
    None of the ingredients is listed.

  - Chemicals known to cause reproductive toxicity for males:
    None of the ingredients is listed.

  - Chemicals known to cause developmental toxicity:
    None of the ingredients is listed.

- Carcinogenic categories
  - EPA (Environmental Protection Agency)
    7646-85-7 zinc chloride D, I, II

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

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

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

GHS07
Trade name: GRIFFON S-39 UNIVERSAL PASTA-R POT 200G*12 L222

- **Signal word** Warning
  - **Hazard-determining components of labeling:**
    - zinc chloride
  - **Hazard statements**
    - H315 Causes skin irritation.
    - H319 Causes serious eye irritation.
    - H335 May cause respiratory irritation.
  - **Precautionary statements**
    - P271 Use only outdoors or in a well-ventilated area.
    - P280 Wear protective gloves / eye protection.
    - P312 Call a poison center/doctor if you feel unwell.
    - P501 Dispose of contents/container in accordance with national regulations.
  - **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** Bison QESH
- **Contact:** Reach coordinator
- **Date of preparation / last revision** 05/23/2019 / 19
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - 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)
  - VOC: Volatile Organic Compounds (USA, EU)
  - 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
  - PEL: Permissible Exposure Limit
  - REL: Recommended Exposure Limit
  - Skin Irrit. 2: Skin corrosion/irritation – Category 2
  - Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
  - STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- *Data compared to the previous version altered.*