SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND THE COMPANY/UNDERTAKING

1.1 Product Identifier
   Trade Name: Heavy Duty Nozzle Dip Gel
   Product Number: 007094, 007095, Yrk.101

1.2 Relevant Identified Uses of the Substance or Mixture and Uses Advised Against
   Product Use: Welding Process Aid

1.3 Details of the Supplier of the Safety Data Sheet
   Manufacturer: Weld-Aid Products
   14650 Dequindre
   Detroit, Michigan
   Information Phone Number: +1 (313) 883-6977
   +1 (313) 883-4930
   E-mail: info@weldaid.com

1.4 Emergency Telephone Number
   Emergency Spill Information: +1 (800) 255-3924

SDS Date of Preparation: December 2, 2011

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

<table>
<thead>
<tr>
<th>Physical:</th>
<th>Health:</th>
<th>Environmental</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>Eye Irritation Category 2A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specific Target Organ Toxicity – Repeat Exposure Category 2</td>
<td>None</td>
</tr>
</tbody>
</table>

EU Classification (67/548/EEC): Not classified as dangerous

2.2 Label Elements

WARNING! Contains Diethylanolamine

Hazard Phrases
H319 Causes serious eye irritation.
H373 May cause damage to liver, kidneys and blood through prolonged or repeated exposure.

Precautionary Phrases
P260 Do not breathe mist/spray.
P264 Wash thoroughly after handling.
P280 Wear protective gloves/eye protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P314 Get medical advice/attention if you feel unwell.
P501 Dispose of contents/container in accordance with local and national regulations.

2.3 Other Hazards: None
SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS# / EINECS#</th>
<th>EU Classification (67/548/EEC)</th>
<th>GHS Classification Regulation (EC) No 1272/2008</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Fatty Alkanolamide</td>
<td>Proprietary</td>
<td>Xi R36</td>
<td>Eye Irritation Category 2A (H319)</td>
<td>5-10%</td>
</tr>
<tr>
<td>Oleic Acid</td>
<td>112-80-1</td>
<td>204-007-1</td>
<td>Eye Irritation Category 2A (H319)</td>
<td>1-5%</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>111-42-2</td>
<td>203-868-0</td>
<td>Acute Toxicity Category 4 (H302), Skin Irritation Category 2 (H315), Eye Damage Category 1 (H318), Specific Target Organ Toxicity – Repeat Exposure Category 2 (H373)</td>
<td>1-2%</td>
</tr>
</tbody>
</table>

See Section 16 for further information on EU and GHS Classification.

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures
   - **Eye:** Rinse thoroughly with water for 15 minutes, holding the eye lids open to be sure the material is washed out. Get medical attention if irritation persists.
   - **Skin:** Wash skin with soap and water. Get medical attention if irritation develops or persists.
   - **Inhalation:** Move to fresh air. Seek medical attention if irritation or other symptoms persist.
   - **Ingestion:** Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Seek medical attention.

4.2 Most Important symptoms and effects, both acute and delayed: May cause eye and skin irritation. Mists may cause upper respiratory irritation.

4.3 Indication of any immediate medical attention and special treatment needed: None required.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing Media:
   - Use water, carbon dioxide, universal foam and dry chemical.

5.2 Special Hazards Arising from the Substance or Mixture
   - **Unusual Fire and Explosion Hazards:** None known.
   - **Hazardous Decomposition Products:** Combustion may produce oxides of carbon and nitrogen.

5.3 Advice for Fire-Fighters:
   - Firefighters should always wear self-contained breathing apparatus and full protective clothing for fires involving chemicals or in confined spaces. Cool fire exposed containers with water.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions, Protective Equipment and Emergency Procedures:
   - Wear appropriate eye protection and gloves.

6.2 Environmental Precautions:
   - Report spill as required by local and federal regulations.

6.3 Methods and Material for Containment and Cleaning Up:
   - Contain and collect using an absorbent material and place in an appropriate container for disposal.

6.4 Reference to Other Sections:
   - Refer to Section 8 for protective equipment and Section 15 for disposal considerations.
Safety Data Sheet
Heavy Duty Nozzle Dip Gel

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for Safe Handling:
Use with adequate ventilation. Avoid contact with the eyes, skin and clothing. Wash thoroughly after handling.

7.2 Conditions for Safe Storage, Including any Incompatibilities
Store in a cool, dry well ventilated area.

7.3 Specific end use(s):
Welding applications.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control Parameters:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Exposure Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified Fatty Alkanolamide</td>
<td>None Established</td>
</tr>
<tr>
<td>Oleic Acid</td>
<td>None Established</td>
</tr>
<tr>
<td>Diethanolamine</td>
<td>0.1 ppm TWA (skin) ACGIH TLV (inhalable fraction and vapor)</td>
</tr>
<tr>
<td></td>
<td>1 mg/m3 TWA (skin) DFG MAK (inhalable)</td>
</tr>
</tbody>
</table>

Refer to local regulations if exposure limits are not listed above.

8.2 Exposure Controls:

- **Engineering Controls:** Use with adequate general or local exhaust ventilation to maintain exposure levels below the occupational exposure limits.
- **Respiratory Protection:** None required for normal use. Use an approved respirator with organic vapor cartridges if exposure levels exceed the applicable exposure limits. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.
- **Skin Protection:** Impervious gloves are recommended if needed to avoid prolonged or repeated contact. Suggested materials for protective gloves include: Rubber, Neoprene or Nitrile.
- **Eye Protection:** Chemical safety goggles recommended if splashing is possible. Follow facility requirements.
- **Other:** Impervious clothing as needed to prevent prolonged skin contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic Physical and Chemical Properties:

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Amber clear gel.</td>
</tr>
<tr>
<td>Odor:</td>
<td>No appreciable odor.</td>
</tr>
<tr>
<td>Odor Threshold:</td>
<td>No data available</td>
</tr>
<tr>
<td>pH:</td>
<td>Not available</td>
</tr>
<tr>
<td>Melting Point/Freezing Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not available</td>
</tr>
<tr>
<td>Flash Point:</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Evaporation Rate:</td>
<td>Not available</td>
</tr>
<tr>
<td>Flammable Limits:</td>
<td>None</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>Not available</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1.0</td>
</tr>
<tr>
<td>Water Solubility:</td>
<td>100%</td>
</tr>
<tr>
<td>Octanol/Water Partition Coefficient:</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature:</td>
<td>Not available</td>
</tr>
<tr>
<td>Decomposition Temperature:</td>
<td>Not available</td>
</tr>
<tr>
<td>Viscosity:</td>
<td>Not available</td>
</tr>
<tr>
<td>Explosion Properties:</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidizing Properties:</td>
<td>Not oxidizing</td>
</tr>
</tbody>
</table>

9.2 Other Information:
None

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity:
Not reactive under normal conditions of use.
10.2 Chemical Stability:
Stable under normal storage and handling conditions.

10.3 Possibility of Hazardous Reactions:
None known.

10.4 Conditions to Avoid:
None known.

10.5 Incompatible Materials:
Avoid contact with oxidizing agents and bases.

10.6 Hazardous Decomposition Products:
Thermal decomposition may produce carbon and nitrogen oxides.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects:
**Eye:** May cause irritation with redness and tearing. Corneal injury is unlikely.
**Skin:** May cause skin irritation.
**Inhalation:** No adverse effects are expected unless the product is aerosolized. Mists may cause mucous membrane and upper respiratory tract irritation.
**Ingestion:** Swallowing may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Acute Toxicity Values:**
- Modified Fatty Alkanolamide: Oral rat LD50 >5,000 mg/kg; Skin rabbit >2,000 mg/kg
- Oleic Acid: Oral rat LD50 >2000 mg/kg
- Diethanolamine: Oral rat LD50 710 mg/kg; Skin rabbit 11.9 ml/kg

**Irritation:** No data available for the product. Oleic acid has been shown to cause irritation to human eyes. Modified Fatty Alkanolamide is not irritating to rabbit skin, irritating to eyes.

**Corrosivity:** This is not a corrosive product.

**Sensitization:** This product is not expected to cause sensitization.

**Repeat Dose Toxicity:** No data available for the products. Diethanolamine has been shown to cause damage to the blood, kidneys and liver.

**Carcinogen Status:** None of the components are listed as a carcinogen by IARC, NTP, ACGIH, OSHA or EU Substances Directive.

**Germ Cell Mutagenicity:** No data available. This product is not expected to cause mutagenic activity.

**Toxicity for Reproduction:** No data available. This product is not expected to cause adverse reproductive effects.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity:
- Modified Fatty Alkanolamide: 96 hr LC50 rainbow trout >56 mg/L; 48 hr LC50 cyprinus carpio 80 mg/L
- Diethanolamine: 96 hr LC50 Pimephales promelas (fathead minnow) 1664 mg/L; 48 hr EC50 daphnia magna 171 mg/L

12.2 Persistence and Degradability:
Diethanolamine and oleic acid are readily biodegradable.

12.3 Bioaccumulative Potential:
Diethanolamine has a BCF of <1 which indicates bioaccumulation is expected to be low in aquatic animals.
12.4 Mobility in Soil:
No data available.

12.5 Results of PBT and vPvB Assessment:
Not required.

12.6 Other Adverse Effects:
None known.

SECTION 13: DISPOSAL INFORMATION

13.1 Waste Treatment Methods
Dispose in accordance with local and national environmental regulations.

SECTION 14: TRANSPORT INFORMATION

<table>
<thead>
<tr>
<th>41.1 UN Number</th>
<th>41.2 UN Proper Shipping Name</th>
<th>14.3 Transport Hazard Class(s)</th>
<th>14.4 Packing Group</th>
<th>14.5 Environmental Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>US DOT</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EU ADR/RID</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IMDG</td>
<td>Not Regulated</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

14.6 Special Precautions for User:
None

14.7 Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code:
Not applicable

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture:

**International Inventories:**
- **US EPA TSCA Inventory:** All of the components are listed on the TSCA inventory.
- **Canadian Environmental Protection Act:** All of the ingredients are listed on the Canadian Domestic Substances List.
- **European Union:** All of the components of this product are listed on the European Inventory of New and Existing Chemical Substances (EINECS) inventory.
- **Australia:** All of the ingredients of this product are listed on the Australian Inventory of Chemical Substances (AICS).
- **China:** All of the ingredients of this product are listed on the Inventory of Existing Chemical Substance in China (IECSC).
- **Korea:** All of the components of this product are listed on the Korean Existing Chemical List (KECL).
- **Japan:** All of the components of this product are listed on the Japanese Existing and New Chemical Substances List (ENCS).
- **New Zealand:** All of the components of this product are listed on the New Zealand Inventory of Chemicals (NZIoC).
- **Philippines:** All of the components of this product are listed on the Philippine Inventory of Chemicals and Chemical Substances (PICCS).

**U.S. REGULATIONS**
- **OSHA Hazard Classification:** Irritant, Target organ effects.
- **CERCLA:** This product has a Reportable Quantity (RQ) of 5,000 lbs. based on the RQ for diethanolamine of 100 lbs. Releases above the RQ must be reported to the National Response Center. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
- **EPA SARA 302:** This product does not contain chemicals regulated under SARA Section 302.
- **EPA SARA 311 Hazard Classification:** Acute Health, Chronic Health
- **EPA SARA 313:** This product contains the following chemicals that are regulated under SARA Title III, section 313:
  - Diethanolamine: 111-42-2 1-2%
California Proposition 65: This product contains the following chemicals which are known to the State of California to cause cancer, reproductive toxicity or birth defects: None

INTERNATIONAL REGULATIONS

WHMIS Classification: Class D-2B (Toxic materials causing other chronic effects)

15.2 Chemical Safety Assessment:
Not required

SECTION 16: OTHER INFORMATION

SDS Revision History:
12/2/11: Converted US SDS to EU REACH SDS

GHS Phrases for Reference (See Section 2 and 3):
H302 Harmful if swallowed.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H319 Causes serious eye irritation
H373 May cause damage to liver, kidneys and blood through prolonged or repeated exposure.

EU Classes and Risk Phrases for Reference (See Sections 2 and 3):
Xi Irritant
Xn Harmful
R22 Harmful if swallowed.
R36 Causes eye irritation.
R38 Irritating to skin.
R41 Risk of serious damage to eyes.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

This sheet was compiled from the latest available information and reliable sources. Procedures are based on accepted usage. They are not necessarily all-inclusive and may vary in every circumstance. Weld-Aid provides no warranties either expressed or implied and assumes no responsibility for the accuracy or completeness of the data herein.