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# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

## 1.) Identification of the Mixture and of the Company

Product identifier: **Crown Off-Line Contact Cleaner - Aerosol**

Product name:  
**8276 Off-Line Contact Cleaner**

Relevant identified uses of the substance: Use on relays, switches, contacts, circuit breakers, plugs and jacks, terminals, circuit boards, generators, electromechanical assemblies and fusible disconnects, and some plastic conveying equipment.

Uses advised against: Poorly ventilated areas

CAS No:	<b>Not Applicable (mixture)</b>
EC No:	<b>Not Applicable (mixture)</b>
Index No:	<b>Not Applicable (mixture)</b>
Manufacturer/Supplier:	<b>Aervoe Industries Incorporated</b>
Street address/P.O. Box:	<b>1100 Mark Circle</b>
Country ID/Postcode/Place	<b>Gardnerville, Nevada 89410</b>
Telephone number:	<b>001 (0) 1-775-782-0100</b>
e-mail:	<b>mailbox@aervoe.com</b>
National contact:	<b>Aervoe industries Incorporated</b>
For Product Information:	<b>001 (0) 1-800-227-0196</b>
Emergency telephone number:	<b>001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)</b>
	<b>English Language Service</b>

## 2. Hazards identification

### Classifications

Physical Hazards:           Aerosol - Category 1  
                                  Press. Gas  
                                  Flam. Liq. 2

Health Hazards:           Eye Irrit. 2  
                                  STOT SE 3  
                                  Asp. Tox. 1  
                                  Repr.2  
                                  STOT RE 2  
                                  Skin. Irrit. 2

Environmental Hazards:   Aquatic Chronic 3

### Labeling

Signal Word:                Danger



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

## Hazard Statements:

H222 – Extremely Flammable Aerosol  
H225 – Highly flammable liquid and vapour.  
H229 – Pressurized container: may burst if heated  
H304 – May be fatal if swallowed and enters airways  
H315 – Causes skin irritation.  
H319 – Causes serious eye irritation.  
H336 – May cause drowsiness or dizziness.  
H340 – May cause genetic defects  
H350 – May cause cancer  
H361 – Suspected of damaging fertility or the unborn child .  
H373 – May cause damage to nervous system through prolonged or repeated exposure(Inhalation)  
H411 – Toxic to aquatic life with long lasting effects.

## Precautionary Statements:

P101 - If medical advice is needed, have product container or label at hand  
P102 - Keep out of reach of children  
P103 - Read label before use  
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking  
P211 - Do not spray on an open flame or other ignition source  
P251 - Pressurized container: Do not pierce or burn, even after use  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray  
P262 - Do not get in eyes, on skin, or on clothing  
P264 - Wash ... thoroughly after handling  
P280 - Wear protective gloves/eye protection/face protection  
  
P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.  
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation  
P251 - Pressurized container: Do not pierce or burn, even after use

## Symbols/Pictograms:



## 3. Composition / Information on Ingredients

### Composition



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Hexane	n-Hexane	110-54-3	203-777-6	60-100%	Flam. Liq. 2 Repr. 2 Asp. Tox. 1 STOT RE 2 Skin Irrit. 2 STOT SE 3 Aquatic Chronic 2	H225 H361f *** H304 H373 ** H315 H336 H411
Isopropanol	Isopropyl Alcohol	67-63-0	200-661-7	7-13%	Flam. Liq. 2 Eye Irrit. 2 STOT SE 3	H225 H319 H336
Carbon Dioxide	CO2	124-38-9	204-696-9	3-7%	N/AV	H229

## Other Product Information

Chemical Identity: Mixture

## 4.) First Aid Measures

### General Advice:

If symptoms persist, always call a doctor.

### Inhalation First Aid:

Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.

### Skin Contact First Aid:

Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.

### Eye Contact First Aid:

If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.

### Ingestion First Aid:

If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

### Most Important

### Symptoms/Effects:

Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.





# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

## 5. Fire Fighting Measures

Flammable Properties:	Aerosol
Auto Ignition Temperature:	Not Available
Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	None known
Hazardous combustion products:	Carbon dioxide, Carbon monoxide
Fire & Explosion Hazards:	Closed Containers may rupture due to the buildup of pressure from extreme temperatures.

Precautions for fire-fighters: Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

## 6. Accidental Release Measures

### PERSONAL PRECAUTIONARY MEASURES:

- 1) Follow personal protective equipment recommendations found in section 8.
- 2) Maintain adequate ventilation.

### SPILL CLEAN-UP PROCEDURES:

- 1.) Evacuate unprotected personnel from the area.
- 2.) Remove sources of ignition if safe to do so.
- 3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
- 4.) Contain spill to prevent material from entering sewage or ground water systems.
- 5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

## 7. Handling and Storage

### Handling:

Flammable Aerosol, use in a well ventilated area.  
Do not use near sources of ignition.  
Do not to eat, drink and smoke while working with this material.  
Wash hands after use.

### Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.  
Storage Temperature: 32° to 120°F (0° to 49°C).  
No known incompatibilities.

## 8. Exposure Controls / Personal Protection



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

## Appropriate engineering controls:

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.

Keep away from sources of ignition.

Take precautionary measures against static discharge.

## Personal Protection:

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

## Skin protection

Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

## Respiratory protection:

Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Hexane	110-54-3	50ppm	N/AV	500ppm	N/AV
Isopropanol	67-63-0	200ppm	400ppm	400ppm	N/AV
Carbon Dioxide	124-38-9	5000ppm	30000ppm	5000ppm	N/AV

\*Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH

## 9. Information on Basic Physical and Chemical Properties

Appearance: Clear, colorless	Odor: HydrocarbonOdor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Faster Than n-Butyl Acetate
Flammability Solid/Gas: Flammable aerosol	LEL: 0.6% UEL: 12%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

## 10. Stability & Reactivity



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions

Chemical stability: Stable under normal conditions

Conditions to avoid: Heat and ignition sources

Incompatible materials: Strong Oxidizing Agents

Hazardous decomposition products: Will not occur

## 11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data: (Hexane) LD50: 2870 mg/kg (Rat-Oral)

Eye irritation data: N/AV

Skin irritation/sensitization/absorption data: N/AV

Reproductive toxicity data: N/AV

Mutagenicity data: N/AV

Symptoms associated with physical contact: N/AV

Acute/chronic effects from short/long term exposure: Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.

Known reportable carcinogens via the following agencies:

NTP: N/AV

IARC: N/AV

OSHA: N/AV

\* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

## 12. Ecological Information

Ecotoxicity: **No Data Available**

Persistence and degradability: **No Data Available**

Bioaccumulative potential: **No Data Available**

Mobility in soil: **No Data Available**

Results of PBT and vPvB assessment: **No Data Available**

Other adverse effects: **No Data Available**

## 13. Disposal Considerations

**Waste Disposal:** Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

**Product / Packaging disposal:** Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

## 14. Transportation Information

### US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

### IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

### IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

## 15. Regulatory Information

### Workplace classification:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR



# Safety Data Sheet (SDS)

Date Prepared/Revised: 2/12/2015 Version no.: 01 Supersedes: (-)

1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.

**SARA Title 3:**

Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.

**TSCA status:** All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

**WHMIS:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.

**PROP 65 (CA):** WARNING: This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

## 16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 2/12/2015

Supersedes: (-)

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

## 1.) Identification of the Mixture and of the Company

Product identifier: **Crown Cutting Oil - Aerosol**

Product name:

**7020 Crown Cutting Oil**

Relevant identified uses of the substance: This cutting oil is designed for applications requiring cooling and lubricating at the point of work. Used for sawing and drilling metal. Use on pipe threaders, gear cutter, grinders, drill presses, automatic screw machines and turret lathes.

Uses advised against: Poorly ventilated areas

CAS No:	<b>Not Applicable (mixture)</b>
EC No:	<b>Not Applicable (mixture)</b>
Index No:	<b>Not Applicable (mixture)</b>
Manufacturer/Supplier:	<b>Aervoe Industries Incorporated</b>
Street address/P.O. Box:	<b>1100 Mark Circle</b>
Country ID/Postcode/Place:	<b>Gardnerville, Nevada 89410</b>
Telephone number:	<b>001 (0) 1-775-782-0100</b>
e-mail:	<b>mailbox@aervoe.com</b>
National contact:	<b>Aervoe Industries Incorporated</b>
For Product Information:	<b>001 (0) 1-800-227-0196</b>
Emergency telephone number:	<b>001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)</b>
	<b>English Language Service</b>

## 2. Hazards identification

### Classifications

Physical Hazards:           Aerosol - Category 1  
                                      Press. Gas  
                                      Flam. Gas. 1

Health Hazards:

Carc. 1B  
Muta. 1B

Environmental Hazards:    N/AV

### Labeling

Signal Word:                Danger



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

Hazard Statements: H220 – Extremely flammable gas.  
H222 – Extremely Flammable Aerosol  
H229 – Pressurized container: may burst if heated  
H340 – May cause genetic defects  
H350 – May cause cancer

Precautionary Statements: P101 - If medical advice is needed, have product container or label at hand  
P102 - Keep out of reach of children  
P103 - Read label before use  
P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking  
P211 - Do not spray on an open flame or other ignition source  
P251 - Pressurized container: Do not pierce or burn, even after use  
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray  
P262 - Do not get in eyes, on skin, or on clothing  
P264 - Wash ... thoroughly after handling  
P280 - Wear protective gloves/eye protection/face protection  
  
P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.  
P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F  
P501 - Dispose of contents/container in accordance with local/regional/national/international regulation  
P251 - Pressurized container: Do not pierce or burn, even after use



Symbols/Pictograms:

## 3. Composition / Information on Ingredients

### Composition

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-52-5	265-155-0	15-40%	Carc. 1B	H350
Hydrocarb	LPG	68476-86-8	270-705-8	10-30%	Press. Gas	H220



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

on Propellant					Flam. Gas 1 Carc. 1B Muta. 1B	H350 H340
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## Other Product Information

Chemical Identity: Mixture

## 4.) First Aid Measures

<b>General Advice:</b>	If symptoms persist, always call a doctor.
<b>Inhalation First Aid:</b>	Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
<b>Skin Contact First Aid:</b>	Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.
<b>Eye Contact First Aid:</b>	If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.
<b>Ingestion First Aid:</b>	If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Most Important Symptoms/Effects:</b>	Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

## 5. Fire Fighting Measures

Flammable Properties:	Aerosol
Auto Ignition Temperature:	Not Available
Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	None known
Hazardous combustion products:	Carbon dioxide, Carbon monoxide
Fire & Explosion Hazards:	Closed Containers may rupture due to the buildup of pressure from extreme temperatures.
Precautions for fire-fighters:	Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.





# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

## 6. Accidental Release Measures

### PERSONAL PRECAUTIONARY MEASURES:

- 1) Follow personal protective equipment recommendations found in section 8.
- 2) Maintain adequate ventilation.

### SPILL CLEAN-UP PROCEDURES:

- 1.) Evacuate unprotected personnel from the area.
- 2.) Remove sources of ignition if safe to do so.
- 3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
- 4.) Contain spill to prevent material from entering sewage or ground water systems.
- 5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

## 7. Handling and Storage

### Handling:

Flammable Aerosol, use in a well ventilated area.  
Do not use near sources of ignition.  
Do not to eat, drink and smoke while working with this material.  
Wash hands after use.

### Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.  
Storage Temperature: 32° to 120°F (0° to 49°C).  
No known incompatibilities.

## 8. Exposure Controls / Personal Protection

### Appropriate engineering controls:

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.  
Keep away from sources of ignition.  
Take precautionary measures against static discharge.

### Personal Protection:

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

### Skin protection

Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

### Respiratory protection:

Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Aliphatic Petroleum Distillates	64742-52-5	N/AV	N/AV	N/AV	N/AV
Hydrocarbon Propellant	68476-86-8	N/AV	N/AV	N/AV	N/AV

**\*Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH**

## 9. Information on Basic Physical and Chemical Properties

Appearance: Clear yellow liquid	Odor: Mild odor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Faster than n-Butyl Acetate
Flammability Solid/Gas: Flammable gas	LEL: 1.8% UEL: 9.5%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

## 10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions

Chemical stability: Stable under normal conditions

Conditions to avoid: Heat and ignition sources

Incompatible materials: Strong Oxidizing Agents

Hazardous decomposition products: Will not occur

## 11. Toxicological Information

Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data: N/AV



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

Eye irritation data: N/AV

Skin irritation/sensitization/absorption data: N/AV  
Reproductive toxicity data: N/AV

Mutagenicity data: N/AV

Symptoms associated with physical contact: N/AV

Acute/chronic effects from short/long term exposure: Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.

Known reportable carcinogens via the following agencies:

NTP: N/AV  
IARC: N/AV  
OSHA: N/AV

\* Petroleum distillates may contain chemical carcinogens in limited quantities (< 0.01%). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

## 12. Ecological Information

Ecotoxicity: **No Data Available**  
Persistence and degradability: **No Data Available**  
Bioaccumulative potential: **No Data Available**  
Mobility in soil: **No Data Available**  
Results of PBT and vPvB assessment: **No Data Available**  
Other adverse effects: **No Data Available**

## 13. Disposal Considerations

**Waste Disposal:** Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.



# Safety Data Sheet (SDS)

Date Prepared/Revised: 7/29/2015 Version no.: 02 Supersedes: (12/4/2014)

**Product / Packaging disposal:** Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

## 14. Transportation Information

### US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

### IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

### IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

## 15. Regulatory Information

### Workplace classification:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.

### SARA Title 3:

Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.

**TSCA status:** All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.

**WHMIS:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.

**PROP 65 (CA):** WARNING: This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

## 16. Other Information



# Safety Data Sheet (SDS)

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Date Prepared/Revised: 7/29/2015    Version no.: 02    Supersedes: (12/4/2014)

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 7/29/2015

Supersedes: 12/4/2014

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.



# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/10/2015 Version no.: 02 Supersedes: (12/18/2014)

## 1.) Identification of the Mixture and of the Company

Product identifier: **Aervoe 937 Tef-Lube - Aerosol**

Product name:  
**937 Tef-Lube**

Relevant identified uses of the substance: Sporting equipment, recreational sports vehicles, aircraft maintenance, automotive assemblies, office machines and home appliances.

Uses advised against: Check surface compatibility by testing small area first, product may affect certain rubber, plastic and painted surfaces.

CAS No:	<b>Not Applicable (mixture)</b>
EC No:	<b>Not Applicable (mixture)</b>
Index No:	<b>Not Applicable (mixture)</b>
Manufacturer/Supplier:	<b>Aervoe Industries Incorporated</b>
Street address/P.O. Box:	<b>1100 Mark Circle</b>
Country ID/Postcode/Place	<b>Gardnerville, Nevada 89410</b>
Telephone number:	<b>001 (0) 1-775-782-0100</b>
e-mail:	<b>mailbox@aervoe.com</b>
National contact:	<b>Aervoe industries Incorporated</b>
For Product Information:	<b>001 (0) 1-800-227-0196</b>
Emergency telephone number:	<b>001 (0) 1-800-424-9300 (CHEMTREC – 24 hrs)</b> <b>English Language Service</b>

## 2. Hazards identification

### Classifications

Physical Hazards:           Aerosol - Category 2  
                                      Press. Gas

Health Hazards:            Asp. Tox. 1  
                                      Carc. 1B

Environmental Hazards:    N/AV

### Labeling

Signal Word:                Danger

Hazard Statements:

H223 – Flammable aerosol.



# Safety Data Sheet (SDS)

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H229 - Pressurized container: may burst if heated  
H304 – May be fatal if swallowed and enters airways.  
H350 – May cause cancer

Precautionary Statements:

- P101 - If medical advice is needed, have product container or label at hand
- P102 - Keep out of reach of children
- P103 - Read label before use
- P210 - Keep away from heat/sparks/open flames/hot surfaces - no smoking
- P211 - Do not spray on an open flame or other ignition source
- P251 - Pressurized container: Do not pierce or burn, even after use
- P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
- P262 - Do not get in eyes, on skin, or on clothing
- P264 - Wash ... thoroughly after handling
- P280 - Wear protective gloves/eye protection/face protection

P303+P361+P353 - If on skin or hair, remove/takeoff immediately all contaminated clothing. Rinse skin with water/shower.

P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F

P501 - Dispose of contents/container in accordance with local/regional/national/international regulation

P251 - Pressurized container: Do not pierce or burn, even after use



Symbols/Pictograms:

## 3. Composition / Information on Ingredients

### Composition

Chemical	Synonyms	CAS Number	EINECS Number	Weight Percent	Hazard Category	H-Code
Aliphatic Petroleum Distillates	Solvent Naphtha	64742-96-7	265-200-4	30-60%	Asp. Tox. 1	H304
Solvent Refined	Hydrocarbon	64742-53-6	265-156-6	15-40%	Carc. 1B	H350



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Paraffinic						
Lubricating oils	Baseoil	72623-86-0	276-737-9	7-13%	Carc. 1B	H350
Carbon Dioxide	CO2	124-38-9	204-696-9	1-5%	N/AV	H229

## Other Product Information

Chemical Identity: Mixture

## 4.) First Aid Measures

<b>General Advice:</b>	If symptoms persist, always call a doctor.
<b>Inhalation First Aid:</b>	Remove victim to fresh air and provide oxygen if breathing is difficult. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention immediately.
<b>Skin Contact First Aid:</b>	Wash with soap and water. Remove contaminated clothing and shoes. Get medical attention immediately. Wash clothing before reuse.
<b>Eye Contact First Aid:</b>	If contact with eyes, immediately flush eyes with plenty of water for at least 15 minutes, while holding eyelids open. Get medical attention immediately.
<b>Ingestion First Aid:</b>	If swallowed, wash out mouth with water provided the person is conscious. Do not induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
<b>Most Important Symptoms/Effects:</b>	Exposure may cause slight irritation to the skin, eyes, and respiratory tract. Excessive exposure may cause central nervous system effects.

## 5. Fire Fighting Measures

Flammable Properties:	Aerosol
Auto Ignition Temperature:	Not Available
Suitable extinguishing media:	Carbon dioxide, dry chemical, water spray.
Unsuitable extinguishing media:	None known
Special hazards arising from the substance or mixture:	None known
Hazardous combustion products:	Carbon dioxide, Carbon monoxide
Fire & Explosion Hazards:	Closed Containers may rupture due to the buildup of pressure from extreme temperatures.





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Precautions for fire-fighters: Use water spray to cool containers exposed to heat or fire to prevent pressure build up. In the event of a fire, wear full protective clothing and NIOSH- approved self-contained breathing apparatus with full face piece operated in the pressure demand or other positive pressure mode.

## 6. Accidental Release Measures

### PERSONAL PRECAUTIONARY MEASURES:

- 1) Follow personal protective equipment recommendations found in section 8.
- 2) Maintain adequate ventilation.

### SPILL CLEAN-UP PROCEDURES:

- 1.) Evacuate unprotected personnel from the area.
- 2.) Remove sources of ignition if safe to do so.
- 3.) Pickup spilled materials using non-sparking tools and place in an appropriate container for disposal.
- 4.) Contain spill to prevent material from entering sewage or ground water systems.
- 5.) Always dispose of waste materials in accordance with all EU, National and Local Regulations.

## 7. Handling and Storage

### Handling:

Flammable Aerosol, use in a well ventilated area.  
Do not use near sources of ignition.  
Do not to eat, drink and smoke while working with this material.  
Wash hands after use.

### Conditions for safe storage, including any incompatibilities:

Store out of direct sunlight.  
Storage Temperature: 32° to 120°F (0° to 49°C).  
No known incompatibilities.

## 8. Exposure Controls / Personal Protection

### Appropriate engineering controls:

Ensure adequate ventilation. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits.  
Keep away from sources of ignition.  
Take precautionary measures against static discharge.

### Personal Protection:

Eye & face protection devices such as safety glasses, safety goggles or face shield are recommended.

### Skin protection

Wear the appropriate protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.



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## Respiratory protection:

Use only in an adequately ventilated area. For unknown vapor concentrations use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA).

Hazardous Ingredient	CAS Number	ACGIH TLV (TWA)	ACGIH TLV (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Aliphatic Petroleum Distillates	64742-96-7	N/AV	N/AV	N/AV	N/AV
Solvent Refined Paraffinic	64742-53-6	N/AV	N/AV	N/AV	N/AV
Lubricating oils	72623-86-0	N/AV	N/AV	N/AV	N/AV
Carbon Dioxide	124-38-9	5000ppm	30000ppm	5000ppm	N/AV

\*Values are based on the 2014 Guide to Occupational Exposure Values by ACGIH

## 9. Information on Basic Physical and Chemical Properties

Appearance: Cloudy amber liquid	Odor: Banana odor
Odor Threshold: N/AV	pH: Not Applicable (solvent Base)
Melting Point: N/AV	Freezing Point: N/AV
Initial Boiling Point: N/AV	Boiling Point Range: N/AV
Flash Point: <0° F (-18° C)	Evaporation Rate: Slower than n-Butyl Acetate
Flammability Solid/Gas: Flammable aerosol	LEL: 0.6% UEL: 7%
Vapor Pressure: N/AV	Vapor Density: Heavier Than Air
Relative Density: N/AV	Solubility: Negligible
Partition Coefficient: n-octanol/ water: N/AV	Auto-ignition Temperature: N/AV
Decomposition Temperature: N/AV	Viscosity: N/AV
Explosive Properties: N/AV	Oxidizing Properties: N/AV

## 10. Stability & Reactivity

Possibility of hazardous reactions: Hazardous polymerization will not occur under normal conditions

Chemical stability: Stable under normal conditions

Conditions to avoid: Heat and ignition sources

Incompatible materials: Strong Oxidizing Agents

Hazardous decomposition products: Will not occur

## 11. Toxicological Information



# Safety Data Sheet (SDS)

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Reports have associated repeated and prolonged overexposure to solvents with permanent brain and nervous system damage. Repeated overexposure can also damage kidneys, lungs, liver, heart and blood

Routes of exposure: Eyes, skin, ingestion, and/or inhalation

Acute toxicological data: N/AV

Eye irritation data: N/AV

Skin irritation/sensitization/absorption data: N/AV

Reproductive toxicity data: N/AV

Mutagenicity data: N/AV

Symptoms associated with physical contact: N/AV

Acute/chronic effects from short/long term exposure:

Irritating to skin. Prolonged/repeated contact may cause defatting of the skin which can lead to dermatitis. Not expected to be a skin sensitizer.

Known reportable carcinogens via the following agencies:

NTP: N/AV

IARC: N/AV

OSHA: N/AV

\* Petroleum distillates may contain chemical carcinogens in limited quantities ( $< 0.01\%$ ). These quantities are determined by the supplier/fraction/purity of the distillate during the manufacturing process. Chemicals that may be present within distillates are listed on California's prop 65 list such as ETHYLBENZENE, BENZENE, and TOLUENE.

## 12. Ecological Information

Ecotoxicity: **No Data Available**

Persistence and degradability: **No Data Available**

Bioaccumulative potential: **No Data Available**

Mobility in soil: **No Data Available**

Results of PBT and vPvB assessment: **No Data Available**

Other adverse effects: **No Data Available**



# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/10/2015 Version no.: 02 Supersedes: (12/18/2014)

## 13. Disposal Considerations

**Waste Disposal:** Dispose of material in accordance with EU, national and local requirements. For proper disposal of used material, an assessment must be completed to determine the proper and permissible waste management options permitted under applicable rules, regulations and/or laws governing your location.

**Product / Packaging disposal:** Dispose of packaging in accordance with federal, state and local requirements, regulations and/or laws governing your location.

## 14. Transportation Information

### US DOT

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference 49 CFR 172.101

### IMDG

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols	2.1	Not Applicable	Not Applicable	Reference IMDG code part 3

### IATA:

UN Number	Proper Shipping Name	Hazard Class	Packing Group	Marine Pollutant	Special Provisions
UN1950	Aerosols, Flammable	2.1	Not Applicable	Not Applicable	Reference IATA Dangerous Goods Regulation

## 15. Regulatory Information

### Workplace classification:

This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). The Occupational Safety and Health Administration's interpretation of the product's hazard to workers.

### SARA Title 3:

Section 311/312 Categorizations (40 CFR 372): This product is a hazardous chemical under 29 CFR 1910.1200, and is categorized as an immediate and delayed health, and flammability physical hazard. Superfund Amendment and Reauthorization Act (SARA) category. SARA requires reporting any spill of any hazardous substance.

**TSCA status:** All chemicals in this product are listed, or are exempt from listing, on the TSCA Inventory.



# Safety Data Sheet (SDS)

Date Prepared/Revised: 8/10/2015 Version no.: 02 Supersedes: (12/18/2014)

**WHMIS:** This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the (M)SDS contains all of the information required by the CPR.

**PROP 65 (CA):** WARNING: This product may contain chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

## 16. Other Information

This SDS has been completed in accordance with GHS Rev04 (2011): U.S OSHA, CMA, ANSI, Canadian WHMIS standards, and European Directives.

Date of Preparation/Revision: 8/10/15

Supersedes: 12/18/2014

To the best of our knowledge, the information contained herein is believed to be accurate. However, the above data does not imply any guarantee or warranty of any kind, expressed or implied. The final determination of the suitability of any material is the sole responsibility of the user. All materials made present un-known hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee these are the only hazards existing.

## SAFETY DATA SHEET GALVANIZED STEEL PRODUCTS

### Section 1 - Identification

**1(a) Product Identifier Used on Label:** EMT, IMC, RIGID, FENCE, MECHANICAL, FLO-FORM ANGLE or CHANNEL

**1(b) Other Means of Identification:** Galvanized Carbon Steel- Pipe, Tube & Shaped profile

**1(c) Recommended Use of the Chemical and Restrictions on Use:** None

**1(d) Name, Address and Telephone Number of the Manufacturer:**



Allied Tube & Conduit Corp  
16100 South Lathrop Avenue  
Harvey, IL 60426  
(708) 339-1610

**1(e) Emergency Phone Number:** (800) 424-9300 (24 Hours) CHEMTREC

### Section 2 - Hazard(s) Identification

\*Note: Steel products as sold by Allied Tube & Conduit are not hazardous. However, operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, may present health hazards.

**2(a) Hazard Symbol, Hazard Classification, Signal Word and Hazard Statement:**

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement
	<ul style="list-style-type: none"> <li>■ Carcinogenicity – 2</li> <li>■ Reproductive Toxicology – 2</li> <li>■ Target Organ Systemic Toxicity - Repeated Exposure - 1</li> </ul>	DANGER	H315 – Causes skin irritation. H317 – May cause an allergic skin reaction H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled. H335 – May cause respiratory irritation. H351 – Suspected of causing cancer H401 – Toxic to aquatic life
	<ul style="list-style-type: none"> <li>■ Acute Toxicity – Oral 4</li> <li>■ Respiratory or Skin Sensitization – 2</li> <li>■ Target Organ Systemic Toxicity - Single Exposure - 3</li> </ul>		

**2(b) Precautionary Statements:**

P261 – Avoid breathing dust/fume; P264 – Wash thoroughly after handling; P270 – Do not eat, drink or smoke while using this product; P271 – Use only outdoors in well ventilated areas; P272 – Contaminated Work Clothing must not be allowed out of the workplace; P273 – Avoid release to the Environment; P280 – Wear protective gloves/protective clothing/eye protection/face protection; P302 – If on skin: Wash with plenty of water and seek medical attention if irritation or rash occurs; P304/340 – If inhaled: Remove person to fresh air and keep at rest in a position comfortable for breathing; P308 – If exposed or concerned: Seek medical advice; P309 – If exposed and feel unwell: Seek medical attention; P363 – Wash contaminated clothing before reuse.

**2(c) Hazards Not Otherwise Classified:** None Known

**2(d) Unknown Acute Toxicity Statement (mixture):** None Known

## Section 3 - Composition/Information on Ingredients

Chemical Name, Common Name (synonyms), CAS Number and Other Identifiers and Concentration:

Chemical Name	CAS Number	EC Number	% Weight
Iron	7439-89-6	231-096-4	95.7 - 98.3
Carbon	7440-44-0	231-153-3	≤ 0.25
Manganese	7439-96-5	231-105-1	≤ 0.95
Phosphorus	7723-14-0	231-768-7	≤0.035
Sulfur	7704-34-9	231-722-6	≤0.035
<b>METALLIC COATING:</b>			
Zinc	7440-66-6	231-175-3	0.50-3.00
Aluminum	7429-90-5	231-072-3	<0.10
Chromium	7440-47-3	231-157-5	<0.0005
Polymeric OD coating			<0.50
TALC - ID Coating	14807-96-6	238-877-9	≤0.10
Quartz - ID Coating	14806-60-7	238-878-4	0.1-1.0%
ID antimicrobial coating			<0.50

## Section 4 - First-Aid Measures

### 4(a) Necessary First-Aid Instructions by Relevant Routes of Exposure.

\*Note: Steel products under normal conditions do not present an inhalation, ingestion, or contact health hazard.

However, operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc, which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, may present health hazards.

**Inhalation:** In case of overexposure to airborne fumes and particulates, remove exposed person to fresh air. If breathing is difficult or has stopped, administer artificial respiration or oxygen as indicated. Seek medical attention promptly. Treat metal fume fever by bed rest and administer a pain and fever reducing medication.

**Skin Contact:** In case of overexposure to dusts or particulates, wash with soap and plenty of water. Get medical attention if irritation develops or persists. If thermal burn occurs, flush area with cold water and get immediate medical attention.

**Eye Contact:** In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.

**Ingestion:** Not considered an ingestion hazard. However, if excessive amounts of dust or particulates are swallowed, treat symptomatically and supportively. Get medical attention.

### 4(b) Most Important Symptoms or Effects, and Any Symptoms that are Acute or Delayed:

**Inhalation:** Metallic taste in the mouth, dryness and irritation of the throat, followed by weakness, muscle pain and chills. No long term effects of metal fume fever have been noted.

**Skin Contact:** Not likely to present an acute or chronic health effect.

**Eye Contact:** Not likely to present an acute or chronic health effect.

**Ingestion:** Not likely to present an acute or chronic health effect.

## Section 5 - Fire-Fighting Measures

**Flashpoint/Flammable Limits:** Not Applicable. NFPA Ratings: Health – 1; Fire – 0; Instability - 0

**5(a) Suitable Extinguishing Equipment:** Steel Products in the solid state present no fire or explosion hazard. Prevent the accumulation of dust. Consider use of Class D extinguisher if large quantities of steel/zinc dust is generated.

**5(b) Specific Hazards that Develop from the Chemical:** None as sold. Prevent the accumulation of dust. When burned, toxic smoke or fume may be emitted.

**5(c) Special Protective Equipment or Precautions for Firefighters:** Self-contained NIOSH approved respiratory protection and full protective clothing when smoke from fire is present. Prevent release of runoff to sewers, storm drains, and /or water ways.

## Section 6 - Accidental Release Measures

**6(a) Personal Precautions, Protective Equipment and Emergency Procedures:**

**RESPIRATORY:** For welding or burning – NIOSH/MSHA approved dust and fume respirators should be used to avoid excessive inhalation of particulates. Appropriate respirator selection depends on the magnitude of exposure.

**SKIN:** Protective gloves should be worn as required for welding, burning, or handling operations. **EYE:** Use safety glasses or goggles as required for welding, burning or handling operations.

**VENTILATION:** Local exhaust ventilation should be provided when sawing, grinding or machining to prevent excessive dust or fume exposure. During welding, burning or brazing please follow the ANSI Standard Z49.1 "Safety in Welding and Cutting".

**OTHER PROTECTIVE EQUIPMENT:** Depending upon the conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.

**6(b) Methods and Materials Used for Containment:** Not applicable for this product as sold/shipped. If material is in a dry state, avoid inhalation of dust. Fine, dry material should be removed by vacuuming or wet sweeping methods to prevent spreading of dust. Avoid using compressed air. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

**6(c) Disposal Methods: Waste Disposal Methods:** - Dispose used or unused product in accordance with applicable Federal, State, and Local regulations. Please recycle. Do not release into sewers or waterways.

## Section 7 - Handling and Storage

**7(a) Precautions for safe handling:** Operations with the potential for generating high concentrations of airborne particulates should be evaluated and controlled as necessary. Avoid breathing metal fumes and/or dusts

**7(b) Conditions for Safe Storage, Including Any Incompatibilities:** Stable under normal conditions of use, storage, and transport. Will react with strong acid to liberate hydrogen.



## Section 8 - Exposure Controls/Personal Protection

Note: Steel Products under normal conditions do not present an inhalation, ingestion, or contact health hazard. These products contain trace quantities of various elements but not at reportable levels under the OSHA Hazard Communication Standard Limit (29 CFR 1910.1200).

### 8(a) Control Parameters:

Ingredients	% Weight	EXPOSURE LIMITS (a) During operations (such as welding, burning, or cutting) where dust or fumes are generated.	
		OSHA PEL	ACGIH TLV (2015)
Base metal: Iron	95.7 - 98.3	10 mg/M3 for iron oxide fume	5 mg/M3 for iron oxide fumes
Alloying Elements: Carbon	≤ 0.25	None established	None established
Manganese	≤ 0.95	(c) 5 mg/M3 – compounds	0.02 mg/M3 (resp.)
<b>METALLIC COATING:</b>			
*Zinc, Zinc Dust or Fume	0.50-3.00	15 mg/M3 - zinc oxide dust 5 mg/M3 - zinc oxide fume or respirable dust	5 mg/M3 - zinc oxide fume (b) 10 mg/M3 – zinc oxide fume
*Aluminum, Aluminum Dust or fume	<0.10	15 mg/M3 – metal dust 5 mg/M3 – respirable fraction	1 mg/M3 (resp.)
Chromium	<0.0005	0.5 mg/M3 as Cr II or III 0.005 mg/M3 as Cr IV	0.5 mg/M3 as Cr II or III 0.05 mg/M3 as water soluble
<b>Polymeric OD coating</b>	<0.50	n/a	n/a
<b>ID antimicrobial coating</b>	<0.50	n/a	n/a

(a) OSHA Annotated Table Z-1 <https://www.osha.gov/dsg/annotated-pels/tablez-1.html>

(b) Denotes short term exposure limit (STEL).

(c) Denotes “ceiling limit” which is not to be exceeded at any time.

\* Subject to Section EPCRA 313 reporting.

**8(b) Appropriate Engineering Controls:** Local exhaust ventilation should be provided when sawing, grinding or machining to prevent excessive dust or fume exposure. During welding, burning or brazing please follow the ANSI Standard Z49.1 “Safety in Welding and Cutting”.

### 8(c) Individual Protection Measures:

**RESPIRATORY:** For welding or burning – NIOSH/MSHA approved dust and fume respirators should be used to avoid excessive inhalation of particulates. Appropriate respirator selection depends on the magnitude of exposure

**SKIN:** Protective gloves should be worn as required for welding, burning, or handling operations. Cut resistant gloves should be used when handling steel products.

**EYE:** Use safety glasses or goggles as required for welding, burning or handling operations.

**OTHER PROTECTIVE EQUIPMENT:** Depending upon the conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.

## Section 9 - Physical and Chemical Properties

- 9(a) Appearance:** Metallic gray
- 9(b) Upper/lower flammability or Explosive limits:** N/A
- 9(c) Odor:** Odorless
- 9(d) Vapor Pressure:** N/A
- 9(e) Odor Threshold:** N/A
- 9(f) Vapor Density:** N/A
- 9(g) pH:** N/A
- 9(h) Relative Density:** 7.86
- 9(i) Melting Point/freezing point:** Melting Point of Base Material - 2750F Metallic Coating - 780F
- 9(j) Solubility(ies):** N/A
- 9(k) Initial boiling point and boiling range:** N/A
- 9(l) Flash point:** N/A
- 9(m) Evaporation rate:** N/A
- 9(n) Flammability:** Steel Products in the Solid State present no fire or explosion hazard.
- 9(o) Partition coefficient; n-octanol/water:** N/A
- 9(p) Auto-ignition temperature:** N/A
- 9(q) Decomposition Temperature: 9(r) Viscosity:** N/A

N/A - Not Applicable

ND - Not Determined for product as a whole

## Section 10 - Stability and Reactivity

- 10(a) Reactivity:** Stable under normal conditions of use, storage and transport. Will react with strong acid to liberate hydrogen. At temperature above the melting point of the coating, galvanized pipe may liberate zinc fumes, carbon monoxide and oxides of nitrogen.
- 10(b) Chemical Stability:** Stable under normal conditions of use, storage and transport.
- 10(c) Possibility of Hazardous Reaction:** None known.
- 10(d) Conditions to Avoid:** Storage with strong acids; Prevent accumulation of dusts from welding or cutting
- 10(e) Incompatible Materials:** Strong acids
- 10(f) Hazardous Decomposition Products:** At temperatures above the melting point of the coating, galvanized pipe may liberate zinc fumes, carbon monoxide, and oxides of nitrogen.

## Section 11 - Toxicological Information

There are no Lethal Concentration/Dose information for galvanized steel products. Steel products under normal conditions do not present an inhalation, ingestion, or contact health hazard. However, operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc., which result in elevating the temperature of the product to or above its melting point or result in the generation of airborne particulates, may present health hazards.

Information provided below addresses potential exposure to dust or fume resulting from the operations identified above. Inhalation of zinc oxide (welding fume) may result in metal fume fever, which includes chills, muscle ache, nausea, fever, dry throat, cough; lassitude (weakness, exhaustion); metallic taste; headache; blurred vision; low back pain; vomiting; malaise (vague feeling of discomfort); chest tightness; dyspnea (breathing difficulty), decreased pulmonary function. Chronic inhalation of high concentrations of iron oxide fumes or dusts may lead to a benign pneumoconiosis (siderosis). Inhalation of high concentrations of ferric oxide may possibly enhance the risk of lung cancer development in workers exposed to pulmonary carcinogens. No long term effects of metal fume fever have been noted. IDLH=500 mg/M3.

Carcinogenicity: Welding fumes – IARC Group 2B, a mixture that is possibly carcinogenic to humans.

See Section 2 for Hazard Symbols, Hazard Classifications, Signal Words, Hazard Statements, and Precautionary Statements.

## Section 12 - Ecological Information

**12(a) Ecotoxicity (Aquatic & Terrestrial):** No data available for galvanized steel products. Prevent the release of accumulated dusts or fume from entering storm drains and/or waterways.

**12(b) Persistence and Degradability:** No data available

**12(c) Bioaccumulative Potential:** No data available

**12(d) Mobility in Soil:** No data available for galvanized steel products. Prevent the release of accumulated dusts or fume to soil that may migrate to groundwater:

**12(e) Other Adverse Effects:** No data available

## Section 13 - Disposal Considerations

**13(a) Disposal:** Scrap metal and processing dusts should be collected for recovery and reuse. Dusts not collected for recovery should be classified and disposed of in accordance with applicable federal, state, and local regulations.

**13(b) Container Cleaning and Disposal:** Not applicable.

## Section 14 - Transport Information

**14(a) UN Number:** Not regulated

**14(b) UN Proper Shipping Name:** Not regulated

**14(c) Transport Hazard Classes:** Not regulated

**14(d) Packing Group:** Not regulated

**14(e) Marine Pollutant:** Not regulated

**14(f) Special Precautions:** Not regulated

## Section 15 - Regulatory Information

**OSHA Hazard Communication Standard (HCS):** This product is not hazardous and meets the definition of “article” under US OSHA HCS 29CFR1910.1200. However, dusts or fumes generated from operations such as burning, welding, sawing, brazing, grinding, and possibly machining, etc., which result in the generation of airborne particulates and/or fumes, may be regulated.

**OSHA 29CFR1910.252(c)(6):** Provide mechanical ventilation if welding/brazing product surface indoors. Provide air replacement or respiratory protection if welding/brazing in confined spaces.

**SARA 311/312 Potential Hazard Categories:** Immediate Acute Health Hazard; Delayed Chronic Health Hazard

**Section 313 Supplier Notification:** Galvanized steel products contain the following toxic chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372: Zinc Compounds [CAS # 7440-66-6] 0.5 to 3% by weight.

**California Proposition 65:** This product contains chromium known to the State of California to cause cancer.

**Toxic Substances Control Act:** All product components are listed on the TSCA Inventory.

**EU RoHS:** Allied Tube & Conduit’s metallic coating is considered lead-free. The aggregate lead content will be less than or equal to 0.1% by weight (an amount consistent with the RoHS directive).

**EU REACH:** The chromate passivation, < 0.1% by weight.

## Section 16 - Other Information

This SDS was prepared by Atkore International, Inc. and covers its Allied Tube & Conduit galvanized steel products: EMT, IMC, RIGID, FENCE, MECHANICAL, FLO-FORM ANGLE or CHANNEL.

Hazardous Material Identification System (HMIS) Classification

Health Hazard = 1/Fire Hazard = 0/Physical Hazard = 0

National Fire Protection Association (NFPA):

Health = 1/Fire = 0/Instability = 0

### Revision History:

May 29, 2015 – Update to UN GHS Format

July 19, 2010 – Update of content

November 11, 2002 – Original Issue



# SAFETY DATA SHEET

Issuing Date 20-Nov-2013

Revision Date 3-Jan-2017

Revision Number 0

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING

### GHS product identifier

**Product Name** Lock-Ease Aerosol

### Other means of identification

**Product Code(s)** LE-5, LE-5BK (765-1384)

**UN-Number** UN1950

**Synonyms** Lock Lubricant, Graphited Lock Fluid

### Recommended use of the chemical and restrictions on use

**Recommended Use** All types of locks, household appliances, tools, guns, reels and other mechanisms.

**Uses advised against** No information available

### Supplier's details

#### **Supplier Address**

AGS Company  
P.O. Box 729  
Muskegon, MI  
49443  
TEL: 800-253-0403

### Emergency telephone number

**Emergency Telephone Number** 800-255-3924

## 2. HAZARDS IDENTIFICATION

### Classification

This chemical is considered hazardous according to the OSHA Hazard Communication Standard 2012 (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation	Category 2
Skin Sensitization	Category 1
Specific Target Organ Systemic Toxicity (Single Exposure)	Category 3
Flammable aerosols	Category 1

### GHS Label elements, including precautionary statements

## Emergency Overview

**Signal Word****Warning****Hazard Statements**

- Causes serious eye irritation
- May cause an allergic skin reaction
- May cause drowsiness or dizziness
- 
- Extremely flammable aerosol
- Pressurized container: may burst if heated

**Appearance** Black, Liquid**Physical State** Aerosol.**Odor** Pungent**Precautionary Statements****Prevention**

- Wash face, hands and any exposed skin thoroughly after handling
- Avoid breathing dust/fume/gas/mist/vapors/spray
- Contaminated work clothing should not be allowed out of the workplace
- Use only outdoors or in a well-ventilated area
- Keep away from heat/sparks/open flames/hot surfaces - No smoking
- Do not spray on an open flame or other ignition source
- Pressurized container: Do not pierce or burn, even after use
- Wear protective gloves/protective clothing/eye protection/face protection.

**General Advice**

- None

**Eyes**

- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- If eye irritation persists: Get medical advice/attention.

**Skin**

- IF ON SKIN: Wash with plenty of soap and water
- If skin irritation or rash occurs: Get medical advice/attention
- Wash contaminated clothing before reuse.

**Inhalation**

- IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- Call a POISON CENTER or doctor/physician if you feel unwell.

**Storage**

- Store in a well-ventilated place. Keep container tightly closed
- Store locked up
- Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F

**Disposal**

- Dispose of contents/container to an approved waste disposal plant.

**Hazard Not Otherwise Classified (HNOC)**

Not applicable

**Other information**

Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.  
0% of the mixture consists of ingredient(s) of unknown toxicity.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Synonyms**

Lock Lubricant, Graphited Lock Fluid

Chemical Name	CAS-No	Weight %	Trade secret
Alkanes, C7-8-iso-	70024-92-9	55-60	*
Acetone	67-64-1	15-20	*
Butane	106-97-8	10-15	*
Propane	74-98-6	5-10	*
Calcium Sulfonate	-	< 1	*

\*The exact percentage (concentration) of composition has been withheld as a trade secret.

### 4. FIRST AID MEASURES

**Description of necessary first-aid measures****Eye Contact**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation persists.

**Skin Contact**

Wash skin with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Remove and wash contaminated clothing before re-use.

**Inhalation**

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if exposed or you feel unwell.

**Ingestion**

Clean mouth with water and afterwards drink plenty of water.

**Protection of First-aiders**

Remove all sources of ignition. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**Most important symptoms/effects, acute and delayed**

**Most Important Symptoms/Effects** Drowsiness. Dizziness. Central nervous system depression. Irritation.

**Indication of immediate medical attention and special treatment needed, if necessary****Notes to Physician**

Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**

Dry chemical. Foam. Carbon dioxide (CO<sub>2</sub>).

**Unsuitable Extinguishing Media** CAUTION: Use of water spray when fighting fire may be inefficient.

**Specific Hazards Arising from the Chemical**

Extremely flammable. Will form explosive mixtures with air. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Containers may explode when heated.

**Explosion Data****Sensitivity to Mechanical Impact**

None.

**Sensitivity to Static Discharge**

Yes.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. All equipment used when handling the product must be grounded. Take precautionary measures against static discharges. Use personal protective equipment. Avoid contact with skin, eyes and clothing.

**Environmental Precautions****Environmental Precautions**

See Section 12 for additional Ecological Information

**Methods and materials for containment and cleaning up****Methods for Containment**

Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning Up**

For undamaged containers: Pick up and transfer to properly labeled containers. In case of rupture: Soak up with inert absorbent material. Take precautionary measures against static discharges. Use clean non-sparking tools to collect absorbed material. Sweep up and shovel into suitable containers for disposal.

## 7. HANDLING AND STORAGE

**Precautions for safe handling****Handling**

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Do not smoke. Do not puncture or incinerate cans. Contents under pressure. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.

**Conditions for safe storage, including any incompatibilities****Storage**

Keep away from open flames, hot surfaces and sources of ignition. Keep containers tightly closed in a cool, well-ventilated place. Keep at temperatures below 50° C.

**Incompatible Products**

Acids. Strong oxidizing agents. Oxygen.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Acetone 67-64-1	STEL: 750 ppm TWA: 500 ppm	TWA: 1000 ppm TWA: 2400 mg/m <sup>3</sup> (vacated) TWA: 750 ppm (vacated) TWA: 1800 mg/m <sup>3</sup> (vacated) STEL: 2400 mg/m <sup>3</sup> The acetone STEL does not apply to the cellulose acetate fiber industry. It is in effect for all other sectors (vacated) STEL: 1000 ppm	IDLH: 2500 ppm 10% LEL TWA: 250 ppm TWA: 590 mg/m <sup>3</sup>



Butane 106-97-8	TWA: 1000 ppm	(vacated) TWA: 800 ppm (vacated) TWA: 1900 mg/m³	TWA: 800 ppm TWA: 1900 mg/m³
Propane 74-98-6	TWA: 1000 ppm	TWA: 1000 ppm TWA: 1800 mg/m³	IDLH: 2100 ppm TWA: 1000 ppm TWA: 1800 mg/m³
Petroleum distillates, solvent-refined heavy paraffinic 64741-88-4	TWA: 5 mg/m³, as oil mist, mineral STEL: TWA: 10 mg/m³, as oil mist, mineral	TWA: 5 mg/m³, as oil mist, mineral	-
Benzene 71-43-2	STEL = 2.5 ppm TWA: 0.5 ppm S*	TWA: 1 ppm TWA: 10 ppm (vacated) TWA: 10 ppm (vacated) STEL: 50 ppm (vacated) Ceiling: 25 ppm Ceiling: 25 ppm STEL: 5 ppm	IDLH: 500 ppm TWA: 0.1 ppm STEL: 1 ppm

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value. OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits. NIOSH IDLH: Immediately Dangerous to Life or Health.

## Other Exposure Guidelines

Vacated limits revoked by the Court of Appeals decision in *AFL-CIO v. OSHA*, 965 F.2d 962 (11th Cir., 1992).

### Appropriate engineering controls

## Engineering Measures

Eyewash stations. Showers. Explosion proof ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection**  
**Skin and Body Protection**  
**Respiratory Protection**

Tightly fitting safety goggles.  
Wear protective gloves/clothing.  
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

## Hygiene Measures

Do not eat, drink or smoke when using this product. Provide regular cleaning of equipment, work area and clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical State</b>	<b>Aerosol</b>	<b>Appearance</b>	<b>Black Liquid</b>
<b>Odor</b>	<b>Pungent</b>	<b>Odor Threshold</b>	<b>No information available</b>
<hr/>			
<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks/ - Method</u></b>	
<b>pH</b>	No data available	None known	
<b>Melting Point/Range</b>	No data available	None known	
<b>Boiling Point/Boiling Range</b>	No data available	None known	
<b>Flash Point</b>	No data available	None known	
<b>Evaporation rate</b>	No data available	None known	
<b>Flammability (solid, gas)</b>	No data available	None known	
<b>Flammability Limits in Air</b>			
<b>upper flammability limit</b>	12.8%		
<b>lower flammability limit</b>	1.0%		
<b>Vapor Pressure</b>	No data available	None known	
<b>Vapor Density</b>	Heavier than air	Air = 1	
<b>Relative Density</b>	No data available	None known	
<b>Specific Gravity</b>	0.69-0.75	For concentrate	
<b>Water Solubility</b>	Negligible	None known	
<b>Solubility in other solvents</b>	No data available	None known	
<b>Partition coefficient: n-octanol/water</b>	No data available	None known	
<b>Autoignition Temperature</b>	No data available	None known	

Decomposition Temperature	No data available	None known
Viscosity	No data available	None known
Flammable Properties	Not flammable	
Explosive Properties	No data available	
Oxidizing Properties	No data available	
<u>Other information</u>		
VOC Content (%)	79%	

## 10. STABILITY AND REACTIVITY

### Reactivity

No data available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

None under normal processing.

### Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Temperatures above 50°C.

### Incompatible materials

Acids. Strong oxidizing agents. Oxygen.

### Hazardous decomposition products

Carbon oxides. Aldehydes. Nitrogen

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

<b>Product Information</b>	Product does not present an acute toxicity hazard based on known or supplied information.
<b>Inhalation</b>	May cause irritation of respiratory tract. May cause drowsiness and dizziness. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination.
<b>Eye Contact</b>	Causes serious eye irritation.
<b>Skin Contact</b>	May cause allergic skin reaction
<b>Ingestion</b>	Ingestion may cause irritation to mucous membranes. May cause additional affects as listed under "Inhalation".

### Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetone	= 5800 mg/kg ( Rat )	1700mg/kg (rabbit)	18892 mg/m <sup>3</sup>
Butane	-	-	658 mg/L ( Rat ) 4 h
Propane	-	-	= 658 mg/L ( Rat ) 4 h

### Symptoms related to the physical, chemical and toxicological characteristics

**Symptoms** Vapors may cause drowsiness and dizziness Irritation

### Delayed and immediate effects and also chronic effects from short and long term exposure

**Irritation** Causes serious eye irritation  
**Sensitization** Calcium sulfonate may cause skin sensitization.  
**Mutagenic Effects** No information available.  
**Carcinogenicity** Contains no ingredients above reportable quantities listed as a carcinogen.

#### **IARC: (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

**Reproductive Toxicity** No information available.  
**STOT - single exposure** May cause respiratory irritation  
**STOT - repeated exposure** No information available.  
**Aspiration Hazard** No information available.

### Numerical measures of toxicity - Product

**Acute Toxicity** 0% of the mixture consists of ingredient(s) of unknown toxicity.

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Acetone 67-64-1		LC50 96 h: 4.74 - 6.33 mL/L (Oncorhynchus mykiss) LC50 96 h: 6210 - 8120 mg/L static (Pimephales promelas) LC50 96 h: = 8300 mg/L (Lepomis macrochirus)	EC50 = 14500 mg/L 15 min	EC50 48 h: 10294 - 17704 mg/L Static (Daphnia magna) EC50 48 h: 12600 - 12700 mg/L (Daphnia magna)
Petroleum distillates, solvent-refined heavy paraffinic 64741-88-4		LC50 96 h: > 5000 mg/L (Oncorhynchus mykiss)		EC50 48 h: > 1000 mg/L (Daphnia magna)
Petroleum distillates, hydrotreated heavy naphthenic 64742-52-5		LC50 96 h: > 5000 mg/L (Oncorhynchus mykiss)		EC50 48 h: > 1000 mg/L (Daphnia magna)
Benzene 71-43-2	EC50 72 h: = 29 mg/L (Pseudokirchneriella subcapitata)	LC50 96 h: 10.7-14.7 mg/L flow-through (Pimephales promelas) LC50 96 h: 22330-41160 µg/L static (Pimephales promelas) LC50 96 h: 70000-142000 µg/L static (Lepomis macrochirus) LC50 96 h: = 22.49 mg/L static (Lepomis macrochirus) LC50 96 h: = 28.6 mg/L static (Poecilia reticulata) LC50 96 h: = 5.3 mg/L flow-through (Oncorhynchus mykiss)		EC50 48 h: 8.76 - 15.6 mg/L Static (Daphnia magna) EC50 48 h: = 10 mg/L (Daphnia magna)

**Persistence and Degradability** No information available.

**Bioaccumulation** No information available.

Chemical Name	Log Pow
Acetone	-0.24
Butane	2.89
Propane	2.3

**Other Adverse Effects**

No information available.

**13. DISPOSAL CONSIDERATIONS**

**Waste Disposal Methods** This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

**Contaminated Packaging** Pressurized container: Do not pierce or burn, even after use. Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld containers.

**US EPA Waste Number** D001

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Acetone - 67-64-1		Included in waste stream: F039		U002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste
Acetone	Ignitable

**14. TRANSPORT INFORMATION****DOT**

**UN-Number** UN1950  
**Proper shipping name** Aerosols, flammable  
**Hazard Class** 2.1  
**Reportable Quantity (RQ)** Acetone: RQ kg= 11350.00  
**Description** UN1950, Aerosols, flammable, 2.1, RQ  
**Emergency Response Guide Number** 126

**TDG**

**UN-Number** UN1950  
**Proper Shipping Name** Aerosols  
**Hazard Class** 2.1  
**Description** UN1950, Aerosols, 2.1  
  
**UN-Number** UN1950  
**Proper Shipping Name** Aerosols  
**Hazard Class** 2.2  
**Description** UN1950, Aerosols, 2.2

**ICAO**

**UN-Number** UN1950  
**Proper shipping name** Aerosols  
**Hazard Class** 2.2  
**Description** UN1950, Aerosols, 2.2

**IATA**

**UN-Number** UN1950  
**Proper Shipping Name** Aerosols, flammable  
**Hazard Class** 2.2  
**ERG Code** 10L  
**Description** UN1950, Aerosols, flammable, 2.2

**IMDG/IMO**

**UN-Number** UN1950  
**Proper Shipping Name** Aerosols

<b>Hazard Class</b>	2
<b>Subsidiary Class</b>	See SP63
<b>EmS No.</b>	F-D, S-U
<b>Description</b>	UN1950, Aerosols, 2.1 (See SP63)

<b>UN-Number</b>	UN1950
<b>Proper Shipping Name</b>	Aerosols
<b>Hazard Class</b>	2
<b>Classification Code</b>	5F
<b>Description</b>	UN1950, Aerosols, 2.1

**ADR**

<b>UN-Number</b>	UN1950
<b>Proper Shipping Name</b>	Aerosols
<b>Hazard Class</b>	2
<b>Classification Code</b>	5F
<b>Tunnel Restriction Code</b>	(D)
<b>Description</b>	UN1950, Aerosols, 2.1, (D)
<b>ADR/RID-Labels</b>	2.1

<b>Proper Shipping Name</b>	Aerosols
<b>Hazard Class</b>	2
<b>Classification Code</b>	5F
<b>Special Provisions</b>	190, 327, 344, 625
<b>Description</b>	UN1950, Aerosols, 2.1
<b>Limited Quantity</b>	1 L
<b>Ventilation</b>	VE01, VE04

## 15. REGULATORY INFORMATION

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL</b>	Complies

**Legend**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**U.S. Federal Regulations**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	Yes
<b>Sudden Release of Pressure Hazard</b>	Yes
<b>Reactive Hazard</b>	No

**Clean Water Act**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Acetone	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ

**U.S. State Regulations****California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	CAS-No	California Prop. 65
Benzene	71-43-2	Carcinogen Developmental Male Reproductive

**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania	Illinois	Rhode Island
Acetone	X	X	X		X
Butane	X	X	X		X
Propane	X	X	X		X

**U.S. EPA Label Information**

EPA Pesticide Registration Number Not applicable

<b>16. OTHER INFORMATION</b>
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<b><u>NFPA</u></b>	<b>Health Hazard</b> 2	<b>Flammability</b> 3	<b>Instability</b> 0	<b>Physical and Chemical Hazards -</b>
<b><u>HMIS</u></b>	<b>Health Hazard</b> 2*	<b>Flammability</b> 3	<b>Physical Hazard</b> 1	<b>Personal Protection</b> X

**Prepared By** Product Stewardship  
23 British American Blvd.  
Latham, NY 12110  
1-800-572-6501

**Issuing Date** 20-Nov-2013  
**Revision Date** 1-Jan-2017  
**Revision Note** Initial Release.

**General Disclaimer**

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of Safety Data Sheet**

# SAFETY DATA SHEET

Briggs & Stratton 2 Cycle Oil

## Section 1. Identification

**GHS product identifier** : 2 Cycle, TCW3™

**Other means of identification** : Not available.

**Product type** : Liquid.

### Identified uses

Not available.

**Supplier's details** : Briggs & Stratton Corporation  
Milwaukee, WI 53201

**Manufactured by** : Pinnacle Oil Holdings, LLC  
8175-B Allison Ave.  
Indianapolis, IN 46268  
Tel: 317-875-9465  
Fax: 317-875-0889  
www.pinnacleoil.com

**Emergency telephone number (with hours of operation)** : CHEMTREC, U.S. : 1-800-424-9300 International: +1-703-527-3887 (24/7)

## Section 2. Hazards identification

**OSHA/HCS status** : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

**Classification of the substance or mixture** : Not classified.

### GHS label elements

**Signal word** : No signal word.

**Hazard statements** : No known significant effects or critical hazards.

### Precautionary statements

**General** : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

**Prevention** : Not applicable.

**Response** : Not applicable.

**Storage** : Not applicable.

**Disposal** : Not applicable.

**Hazards not otherwise classified** : None known.



## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Not available.

### CAS number/other identifiers

**CAS number** : Not applicable.  
**Product code** : Not available.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated light Butene, homopolymer	10 - 30 1 - 5	64742-47-8 9003-29-6

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

**Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Get medical attention if irritation occurs.

**Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

**Skin contact** : Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

**Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)





## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : In case of fire, use foam, dry chemical or carbon dioxide.
- Unsuitable extinguishing media** : Do not use high volume water jet as an extinguisher, as this may spread the fire.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

**Hazardous thermal decomposition products** : Carbon oxides

**Special protective actions for fire-fighters** : No special measures are required.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8).
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.



## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated light	<b>OSHA PEL (United States).</b> TWA: 213 ppm TWA: 1200 mg/m <sup>3</sup> <b>ACGIH TLV (United States, 4/2014). Absorbed through skin.</b> TWA: 200 mg/m <sup>3</sup> , (as total hydrocarbon vapor) 8 hours.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or supplied air respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.



## Section 9. Physical and chemical properties

### Appearance

Physical state	: Liquid.
Color	: Blue.
Odor	: Petroleum.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: Not available.
Boiling point	: Not available.
Flash point	: Closed cup: 93 to 110°C (199.4 to 230°F)
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: Not available.
Relative density	: 0.87 to 0.88
Solubility	: Not available.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Kinematic (100°C (212°F)): 0.075 to 0.082 cm <sup>2</sup> /s (7.5 to 8.2 cSt) Kinematic (40°C (104°F)): 0.411 to 0.503 cm <sup>2</sup> /s (41.1 to 50.3 cSt)
Volatility	: Not available.
VOC content	: 29.5 % (w/w)

## Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: No specific data.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.



## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

There is no data available.

#### Irritation/Corrosion

There is no data available.

#### Sensitization

There is no data available.

#### Carcinogenicity

There is no data available.

#### Specific target organ toxicity (single exposure)

There is no data available.

#### Specific target organ toxicity (repeated exposure)

There is no data available.

#### Aspiration hazard

Name	Result
Distillates (petroleum), hydrotreated light Butene, homopolymer	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

**Information on the likely routes of exposure** : Dermal contact. Ingestion.

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

**Eye contact** : No known significant effects or critical hazards.  
**Inhalation** : No known significant effects or critical hazards.  
**Skin contact** : No known significant effects or critical hazards.  
**Ingestion** : No known significant effects or critical hazards.

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

#### Long term exposure

**Potential immediate effects** : No known significant effects or critical hazards.  
**Potential delayed effects** : No known significant effects or critical hazards.

#### Potential chronic health effects

**General** : No known significant effects or critical hazards.  
**Carcinogenicity** : No known significant effects or critical hazards.  
**Mutagenicity** : No known significant effects or critical hazards.



## Section 11. Toxicological information

- Teratogenicity** : No known significant effects or critical hazards.  
**Developmental effects** : No known significant effects or critical hazards.  
**Fertility effects** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

There is no data available.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
Distillates (petroleum), hydrotreated light	Acute LC50 2200 µg/L Fresh water	Fish - Lepomis macrochirus	4 days

### Persistence and degradability

There is no data available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
Butene, homopolymer	7.6 to 7.8	314 to 1882	high

### Mobility in soil

- Soil/water partition coefficient (K<sub>oc</sub>)** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.



## Section 14. Transport information

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.
Additional information	-	-	-

**AERG** : Not applicable.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** :

- TSCA 4(a) final test rules:** 2-Butenedioic acid (E)-, di-C8-18-alkyl esters
- TSCA 8(a) PAIR:** 2-Butenedioic acid (E)-, di-C8-18-alkyl esters; Naphthalene
- TSCA 8(a) CDR Exempt/Partial exemption:** Not determined
- TSCA 12(b) one-time export:** 2-Butenedioic acid (E)-, di-C8-18-alkyl esters
- United States inventory (TSCA 8b):** All components are listed or exempted.
- Clean Water Act (CWA) 307:** Naphthalene
- Clean Water Act (CWA) 311:** Naphthalene

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

**SARA 302/304**



## Section 15. Regulatory information

### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : Not applicable.

### Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Distillates (petroleum), hydrotreated light Butene, homopolymer	10 - 30 1 - 5	Yes. No.	No. No.	No. No.	No. Yes.	No. No.

### State regulations

**Massachusetts** : The following components are listed: Distillates (petroleum), solvent-refined light paraffinic

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: Distillates (petroleum), solvent-dewaxed heavy paraffinic; Residual oils (petroleum), solvent-refined; Distillates (petroleum), solvent-refined heavy paraffinic; Distillates (petroleum), hydrotreated heavy paraffinic; Distillates (petroleum), solvent-refined light paraffinic; Residual oils (petroleum), solvent-dewaxed

**Pennsylvania** : None of the components are listed.

### California Prop. 65

**WARNING:** This product contains less than 0.1% of a chemical known to the State of California to cause cancer.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
Naphthalene	Yes.	No.	Yes.	No.

## Section 16. Other information

### History

**Date of issue mm/dd/yyyy** : 02/28/2015

**Version** : 1

**Prepared by** : KMK Regulatory Services Inc.

**Key to abbreviations** : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.



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

### Product identifier

Product name: CADWELD® Aluminum Welding Material  
Inclusive of material types: A22  
Applicable prefixes: ACB, ACC, ACL

Container size: 30 g - 2.5 kg

### Relevant identified uses of the substance or mixture and uses advised against

Application: Exothermic Welding material

### Details of the supplier of the safety data sheet

Manufacturer ERICO International Corporation  
34600 Solon Road  
Solon, Ohio 44139  
Tel:(440) 248-0100

### Emergency telephone number

Emergency telephone: Chemtel  
1-800-255-3924 USA  
+01-813-248-0585 International



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## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

OSHA 2012: Flammable Solid, category 2;H228

### Label elements



### WARNING

H228	Flammable solid.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe dust/fume
P280	Wear eye protection and gloves.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370 + P378	In case of fire: Use dry sand to extinguish.
P501	Dispose of contents/container in accordance with local regulations.

### Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2500°F (1370°C), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Only classified substances above threshold limits are shown.

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OSHA 2012:

%:	CAS-No.:	EC No.:	REACH Reg. No:	Chemical name:	Hazard classification:	Notes:
30-60	7429-90-5	231-072-3	01-2119529243-45-	Aluminium powder (stabilised)	Water-react. 2;H261 Flam. Sol. 1;H228	
1-<15	1317-39-1	215-270-7	01-2119513794-36-	Dicopper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	M = 1
1-<10	1317-38-0	215-269-1	01-2119502447-44-	Copper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1

Notes: M: M-Factor

References: The full text for all hazard statements is displayed in section 16.

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/Dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### Most important symptoms and effects, both acute and delayed

Symptoms/effects: Inhalation of powder or fumes may cause metal fume fever. Symptoms like headache, fatigue and nausea may appear. See section 11 for more detailed information on health effects and symptoms.

### Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Extinguishing media: Dry sand and/or flooding with large amounts of water after reaction is complete.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

### Special hazards arising from the substance or mixture

Specific hazards: During fire, health hazardous gases may be formed.  
Ignition temperature: > 1650°F

The ignition of the packaging materials may, in rare cases, lead to ignition. Direct application of water is not recommended. This product makes use of fine grade aluminums that have the potential to have adverse chemical reactions if exposed to large volumes of water. These reactions can result in evolution of hydrogen gas that can significantly increase fire intensity and potential "explosion" hazards.

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

### Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

### Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

### Methods and material for containment and cleaning up

Spill Cleanup Methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place.  
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

### Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

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## SECTION 7: HANDLING AND STORAGE

### **Precautions for safe handling**

**Safe handling advice:** Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. CADWELD Aluminum Welding Material is designed for use in CADWELD equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts, resulting in personal injury.

**Technical measures:** Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety. For additional information, see American National Standard, Safety In Welding And Cutting, and Z49.1.

**Technical precautions:** Confined space: Local exhaust is recommended.

### **Conditions for safe storage, including any incompatibilities**

**Technical measures for safe storage:** CADWELD Aluminum Welding Material should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings. Follow the rules for storage of flammable products.

**Storage conditions:** If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, CADWELD Materials do not exhibit any storage or shelf life.

### **Specific end use(s)**

**Specific use(s):** Welding material

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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
18282-10-5	Tin inorganic compounds (except oxides)	Sn	2 mg/m3	TWA	-	OSHA
-	Tin oxide & inorganic compounds, except tin hydride	Sn	2 mg/m3	TWA	-	ACGIH
-	Fluorides	F	2.5 mg/m3	TWA	A4	ACGIH
-	Fluorides	F	2.5 mg/m3	TWA	-	OSHA

Notes:

A4: Not Classifiable as a Human Carcinogen.

### Exposure controls

#### Engineering measures:

Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust and fumes.

#### Personal protection:

Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment. Use special welding equipment for protection of eyes, skin and respiratory system.

#### Respiratory equipment:

Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms. Wear suitable respiratory equipment for dusts and metal fumes.

#### Hand protection:

Heat insulated protective gloves. Recommended for handling hot equipment.

#### Eye protection:

Wear goggles/face shield. Avoid direct eye contact with "flash" of light from reaction.

#### Skin protection:

Use protective clothing, which covers arms and legs.

#### Hygiene measures:

Wash hands after handling. Change contaminated clothing.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Form: Powder  
Color: Silvery-white  
Odor: Odorless.  
pH: Not available.  
Melting point / freezing point: 428°F  
Boiling point: Not available.  
Flash point: > 1650°F  
Evaporation rate: Not relevant.  
Vapor pressure: Not relevant.  
Vapor density: Not relevant.  
Relative density: 5.0  
Solubility: Insoluble in water  
Partition coefficient (n-octanol/water): Not available.  
Auto-ignition temperature (°C): > 1650°F  
Decomposition temperature (°C): Not available.  
Viscosity: Not relevant.  
Explosive properties: Not available.  
Oxidizing properties: Not available.

### Other information

Other data: -

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## SECTION 10: STABILITY AND REACTIVITY

### **Reactivity**

Reactivity: See hazardous reactions.

### **Chemical stability**

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

### **Possibility of hazardous reactions**

Hazardous Reactions: Aggressive reactions are possible if excess moisture is present in the mold or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

### **Conditions to avoid**

Conditions/materials to avoid: Temperatures above ignition point. 1650°F

### **Incompatible materials**

Incompatible materials: Typical of problems associated with molten metals.

### **Hazardous decomposition products**

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

### **Information on toxicological effects**

Inhalation: Dust may irritate throat and respiratory system and cause coughing. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

Skin contact: Dust has an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

Eye contact: Particles/fumes in the eyes may cause discomfort/irritation.

Ingestion: Ingestion may cause nausea, headache, dizziness and intoxication.  
Dicopper oxide: LD50 > 500 mg/kg

Specific effects: Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxide may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis. Long term exposure to tin oxide may cause stannosis.  
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

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## SECTION 12: ECOLOGICAL INFORMATION

### **Toxicity**

**Ecotoxicity:** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Dicopper oxide: EC50 (Daphnia magna, 48 hours): 0.51 mg/l

### **Persistence and degradability**

**Degradability:** The product solely consists of inorganic compounds which are not biodegradable.

### **Bioaccumulative potential**

**Bioaccumulative potential:** No data available on bioaccumulation.

### **Mobility in soil**

**Mobility:** The product is not volatile but may be spread by dust-raising handling.

### **Results of PBT and vPvB assessment**

**PBT/vPvB:** This product does not contain any PBT or vPvB substances.

### **Other adverse effects**

**Other adverse effects:** None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **Waste treatment methods**

Dispose of waste and residues in accordance with local authority requirements.



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## SECTION 14: TRANSPORT INFORMATION

### UN number

UN-No: 3089

### UN proper shipping name

Proper Shipping Name: METAL POWDER, FLAMMABLE, N.O.S. (Aluminum powder (stabilized))

### Transport hazard class(es)

Class: 4.1

### Packing group

PG: II

### Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

### Special precautions for user

Special precautions: -

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: -

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## SECTION 15: REGULATORY INFORMATION

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

Special provisions: State and local regulation may apply.

TSCA: The ingredients of this product are on the TSCA Inventory.

SARA Section 302: No

SARA Section 313: Yes

NFPA Rating: Health:2 Fire:1 Reactivity:1 Other:-

HMIS Rating: Health:2 Fire:1 Reactivity:1 Personal protection:B

B = Safety Glasses and Gloves.

National regulation:

The following lists have been checked:

Threshold Limit Values (2014), ACGIH, by the American Conference on Governmental Industrial Hygienists.

The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.

NIOSH Pocket Guide to Chemical Hazards.

The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Hazard Communication, with amendments.

U.S. Department of health and human services: 2014 - Report on Carcinogens - 13th Edition.

International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.

Threshold Limit Values (2015), ACGIH, by the American Conference on Governmental Industrial Hygienists.

The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification.

The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.

### Chemical Safety Assessment in compliance with Regulation (EC) No 1907/2006 (REACH)

CSA status: Not relevant.

# SAFETY DATA SHEET

Product name:	CADWELD® Aluminum Welding Material	Page:	12/12
Supersedes date:	2013-04-11	Revision:	2015-07-29
SDS-ID:	CADWELD_AWM_US	Version number:	US-EN/2.2

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## SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1-16

Abbreviations and acronyms PBT = Persistent, Bioaccumulative and Toxic.  
used in the safety data sheet: vPvB = very Persistent and very Bioaccumulative.

### Wording of H-statements:

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

Product name:	CADWELD® Electrical Welding Material	Page:	1/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

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

Product name: CADWELD® Electrical Welding Material  
Inclusive of material types: F20, F80, F33, XF19, F76  
Applicable prefixes: CA, SB, PB, XL, XF, ACB, ACC

**Relevant identified uses of the substance or mixture and uses advised against**

Application: Exothermic Welding material

**Details of the supplier of the safety data sheet**

Manufacturer ERICO International Corporation  
34600 Solon Road  
Solon, Ohio 44139  
Tel:(440) 248-0100

**Emergency telephone number**

Emergency telephone: Chemtel  
1-800-255-3924 USA  
+01-813-248-0585 International

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	2/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

OSHA 2012: Acute Toxicity, category 4;H302

### Label elements



### WARNING

H302	Harmful if swallowed.
P260	Do not breathe dust/fume
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P273	Avoid release to the environment.
P501	Dispose of contents/container in accordance with local regulations.
P330	Rinse mouth.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

### Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2500°F (1370°C), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Only classified substances above threshold limits are shown.

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	3/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

OSHA 2012:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
25-85	1317-39-1	215-270-7	01-2119513794-36-	Dicopper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	M = 1
1-30	1317-38-0	215-269-1	01-2119502447-44-	Copper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1
1-30	7440-50-8	231-159-6	01-2119480154-42-	Copper	Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1
1-20	7429-90-5	231-072-3	01-2119529243-45-	Aluminium powder (stabilised)	Water-react. 2;H261 Flam. Sol. 1;H228	

Notes: M: M-Factor

References: The full text for all hazard statements is displayed in section 16.

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/Dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### Most important symptoms and effects, both acute and delayed

Symptoms/effects: Inhalation of powder or fumes may cause metal fume fever. Symptoms like headache, fatigue and nausea may appear. See section 11 for more detailed information on health effects and symptoms.

### Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	4/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

### Special hazards arising from the substance or mixture

Specific hazards: During fire, health hazardous gases may be formed.  
Ignition temperature: >1750°F

In the event that the packaging materials are ignited, the immediate and direct application of large quantities of water will effectively eliminate the spread of fire to the surrounding areas. The ignition of the packaging materials may, in rare cases, lead to ignition. Direct application of a continuous heavy stream of water is recommended.

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

### Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

### Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

### Methods and material for containment and cleaning up

Spill Cleanup Methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place.  
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

### Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	5/12
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SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Safe handling advice: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. CADWELD Exothermic Welding Materials and Filler Materials are designed for use in CADWELD equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

Technical measures: Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety. For additional information, see American National Standard, Safety In Welding And Cutting, and Z49.1.

Technical precautions: Confined space: Local exhaust is recommended.

### Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: CADWELD Electrical Welding Material should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings.

Storage conditions: If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, CADWELD Materials do not exhibit any storage or shelf life.

### Specific end use(s)

Specific use(s): Welding material

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

A detailed fume analysis was conducted on CADWELD Electrical Welding Materials. Reactions byproducts were tested for total dust, respirable dust, metals, acids, fluorides, and various elements identified in typical welding fume analysis. All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work. Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA. As a worst case scenario, calculations were completed based on a sealed 800 ft<sup>3</sup> room with no ventilation. These calculations would indicate that the copper fume PEL would be the limiting factor. Under normal outdoor use or in ventilated areas threshold limits are beyond any expected exposure limits.



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## Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-21-3	Silicon, respirable fraction	-	5 mg/m3	TWA	-	OSHA
7440-21-3	Silicon, total dust	-	15 mg/m3	TWA	-	OSHA
7440-31-5	Tin, metal	Sn	2 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
-	Fluorides	F	2.5 mg/m3	TWA	-	OSHA
-	Fluorides	F	2.5 mg/m3	TWA	A4; BEI	ACGIH

Notes: A4: Not Classifiable as a Human Carcinogen.

## Exposure controls

<u>Engineering measures:</u>	Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust and fumes.
<u>Personal protection:</u>	Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment. Use special welding equipment for protection of eyes, skin and respiratory system.
<u>Respiratory equipment:</u>	Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms. Wear suitable respiratory equipment for dusts and metal fumes.
<u>Hand protection:</u>	Heat insulated protective gloves. Recommended for handling hot equipment.
<u>Eye protection:</u>	Wear goggles/face shield. Avoid direct eye contact with "flash" of light from reaction.
<u>Skin protection:</u>	Use protective clothing, which covers arms and legs.
<u>Hygiene measures:</u>	Wash hands after handling. Change contaminated clothing.

# SAFETY DATA SHEET

Product name: CADWELD® Electrical Welding Material  
Supersedes date: 2013-09-25  
SDS-ID: CADWELD\_EWM\_US

Page: 7/12  
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Version number: US-EN/3.3

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Form: Granular.  
Color: Gray-black  
Odor: Odorless.  
pH: Not available.  
Melting point / freezing point: 2000°F  
Boiling point: Not available.  
Evaporation rate: Not relevant.  
Vapor pressure: Not relevant.  
Vapor density: Not relevant.  
Solubility: Insoluble in water  
Partition coefficient (n-octanol/water): Not available.  
Auto-ignition temperature (°C): > 1750°F  
Decomposition temperature (°C): Not available.  
Viscosity: Not relevant.  
Explosive properties: Not available.  
Oxidizing properties: Not available.

### Other information

Other data: SPECIFIC GRAVITY (water=1): 5.5

# SAFETY DATA SHEET

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Reactivity: See hazardous reactions.

### Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

### Possibility of hazardous reactions

Hazardous Reactions: Aggressive reactions are possible if excess moisture is present in the mold or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

### Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point. 1750°F

### Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

### Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Inhalation: Dust may irritate throat and respiratory system and cause coughing. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

Skin contact: Dust has an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

Eye contact: Particles/fumes in the eyes may cause discomfort/irritation.

Ingestion: Ingestion may cause nausea, headache, dizziness and intoxication.  
Dicopper oxide: LD50 > 500 mg/kg

Specific effects: Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxide may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.  
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	9/12
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## SECTION 12: ECOLOGICAL INFORMATION

### **Toxicity**

Ecotoxicity: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Dicopper oxide: EC50 (Daphnia magna, 48 hours): 0.51 mg/l

### **Persistence and degradability**

Degradability: The product solely consists of inorganic compounds which are not biodegradable.

### **Bioaccumulative potential**

Bioaccumulative potential: No data available on bioaccumulation.

### **Mobility in soil**

Mobility: The product is not volatile but may be spread by dust-raising handling.

### **Results of PBT and vPvB assessment**

PBT/vPvB: This product does not contain any PBT or vPvB substances.

### **Other adverse effects**

Other adverse effects: None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **Waste treatment methods**

Dispose of waste and residues in accordance with local authority requirements.

# SAFETY DATA SHEET

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SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

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## SECTION 14: TRANSPORT INFORMATION

The product material has been tested by independent facilities in accordance with D.O.T. / U.N. CFR 49 and I.A.T.A. Dangerous Goods Regulations to determine the applicable ratings of this material. Based on the results of this testing, the CADWELD Electrical Welding Material is not classified as a flammable solid.

Due to the minimal quantity present per package, this material and the CADWELD Electrical Welding Material package is shipped under provisions outlined under D.O.T. / U.N. 49 CFR 171.1 "General Regulations for the Transportation of Hazardous Material" and 173.4 "Exceptions for Small Quantities". All materials are packaged and marked at the factory in full compliance with these regulations. The product is covered by international regulation on the transport of dangerous goods (IMDG, IATA).

### UN number

UN-No: -

### UN proper shipping name

Proper Shipping Name: -

### Transport hazard class(es)

Class: -

### Packing group

PG: -

### Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

### Special precautions for user

Special precautions: -

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: -

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	11/12
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SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

## SECTION 15: REGULATORY INFORMATION

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

Special provisions: State and local regulation may apply.  
TSCA: The ingredients of this product are on the TSCA Inventory.  
SARA Section 302: No  
SARA Section 313: Yes

NFPA Rating: Health:2 Fire:1 Reactivity:1 Other:-  
HMIS Rating: Health:2 Fire:1 Reactivity:1 Personal protection:B

B = Safety Glasses and Gloves.

National regulation: The following lists have been checked:  
Threshold Limit Values (2014), ACGIH, by the American Conference on Governmental Industrial Hygienists.  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.  
NIOSH Pocket Guide to Chemical Hazards.  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Hazard Communication, with amendments.  
U.S. Department of health and human services: 2014 - Report on Carcinogens - 13th Edition.  
International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.  
Threshold Limit Values (2015), ACGIH, by the American Conference on Governmental Industrial Hygienists.  
The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification.  
The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.

### Chemical Safety Assessment in compliance with Regulation (EC) No 1907/2006 (REACH)

CSA status: Not relevant.

# SAFETY DATA SHEET

Product name:	CADWELD® Electrical Welding Material	Page:	12/12
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SDS-ID:	CADWELD_EWM_US	Version number:	US-EN/3.3

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## SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1-16

Abbreviations and acronyms PBT = Persistent, Bioaccumulative and Toxic.  
used in the safety data sheet: vPvB = very Persistent and very Bioaccumulative.

### Wording of H-statements:

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
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H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

# SAFETY DATA SHEET

Product name:	CADWELD® Plus Welding Material	Page:	1/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_PLUS_US	Version number:	US-EN/4.0

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

### Product identifier

Product name: CADWELD® Plus Welding Material  
Inclusive of material types: F20, F80, F33, XF19  
Applicable prefixes: SB, PB, CA

### Relevant identified uses of the substance or mixture and uses advised against

Application: Exothermic Welding material

### Details of the supplier of the safety data sheet

Manufacturer ERICO International Corporation  
34600 Solon Road  
Solon, Ohio 44139  
Tel:(440) 248-0100

### Emergency telephone number

Emergency telephone: Chemtel  
1-800-255-3924 USA  
+01-813-248-0585 International



# SAFETY DATA SHEET

Product name: CADWELD® Plus Welding Material  
Supersedes date: 2013-09-25  
SDS-ID: CADWELD\_PLUS\_US

Page: 2/12  
Revision: 2015-07-21  
Version number: US-EN/4.0

## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

OSHA 2012: Acute Toxicity, category 4;H302

### Label elements



### WARNING

H302 Harmful if swallowed.

P260 Do not breathe dust/fume

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P273 Avoid release to the environment.

P501 Dispose of contents/container in accordance with local regulations.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P330 Rinse mouth.

### Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2500°F (1370°C), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Only classified substances above threshold limits are shown.

# SAFETY DATA SHEET

Product name:	CADWELD® Plus Welding Material	Page:	3/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_PLUS_US	Version number:	US-EN/4.0

OSHA 2012:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
25-85	1317-39-1	215-270-7	01-2119513794-36-	Dicopper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	M = 1
1-30	1317-38-0	215-269-1	01-2119502447-44-	Copper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1
1-30	7440-50-8	231-159-6	01-2119480154-42-	Copper	Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1
1-20	7429-90-5	231-072-3	01-2119529243-45-	Aluminium powder (stabilised)	Water-react. 2;H261 Flam. Sol. 1;H228	

Notes: M: M-Factor

References: The full text for all hazard statements is displayed in section 16.

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/Dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### Most important symptoms and effects, both acute and delayed

Symptoms/effects: Inhalation of powder or fumes may cause metal fume fever. Symptoms like headache, fatigue and nausea may appear. See section 11 for more detailed information on health effects and symptoms.

### Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

# SAFETY DATA SHEET

Product name:	CADWELD® Plus Welding Material	Page:	4/12
Supersedes date:	2013-09-25	Revision:	2015-07-21
SDS-ID:	CADWELD_PLUS_US	Version number:	US-EN/4.0

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

### Special hazards arising from the substance or mixture

Specific hazards: During fire, health hazardous gases may be formed.  
Ignition temperature: >1750°F

In the event that the packaging materials are ignited, the immediate and direct application of large quantities of water will effectively eliminate the spread of fire to the surrounding areas. The ignition of the packaging materials may, in rare cases, lead to ignition. Direct application of a continuous heavy stream of water is recommended.

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

### Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

### Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

### Methods and material for containment and cleaning up

Spill Cleanup Methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place.  
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

### Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

# SAFETY DATA SHEET

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SDS-ID:	CADWELD_PLUS_US	Version number:	US-EN/4.0

## SECTION 7: HANDLING AND STORAGE

### Precautions for safe handling

Safe handling advice: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. CADWELD PLUS integrated packages are designed for use in CADWELD equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

Technical measures: Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety. For additional information, see American National Standard, Safety In Welding And Cutting, and Z49.1.

Technical precautions: Confined space: Local exhaust is recommended.

### Conditions for safe storage, including any incompatibilities

Technical measures for safe storage: CADWELD PLUS material should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings.

Storage conditions: If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, the CADWELD PLUS unit and CADWELD Welding Materials do not exhibit any storage or shelf life.

### Specific end use(s)

Specific use(s): Welding material

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

A detailed fume analysis was conducted on CADWELD PLUS. Reaction byproducts were tested for total dust, respirable dust, metals, acids, fluorides, various elements, and volatile organic compounds (VOC's). All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work.

Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA. As a worst case scenario, calculations were completed based on a sealed 800 ft<sup>3</sup> room with no ventilation. These calculations would indicate that the copper fume PEL would be the limiting factor. Under normal outdoor use or in ventilated areas threshold limits are beyond any expected exposure limits.

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## Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-21-3	Silicon, respirable fraction	-	5 mg/m3	TWA	-	OSHA
7440-21-3	Silicon, total dust	-	15 mg/m3	TWA	-	OSHA
7440-31-5	Tin, metal	Sn	2 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
-	Fluorides	F	2.5 mg/m3	TWA	-	OSHA
-	Fluorides	F	2.5 mg/m3	TWA	A4; BEI	ACGIH

Notes: A4: Not Classifiable as a Human Carcinogen.

## Exposure controls

<u>Engineering measures:</u>	Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust and fumes.
<u>Personal protection:</u>	Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment. Use special welding equipment for protection of eyes, skin and respiratory system.
<u>Respiratory equipment:</u>	Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms. Wear suitable respiratory equipment for dusts and metal fumes.
<u>Hand protection:</u>	Heat insulated protective gloves. Recommended for handling hot equipment.
<u>Eye protection:</u>	Wear goggles/face shield. Avoid direct eye contact with "flash" of light from reaction.
<u>Skin protection:</u>	Use protective clothing, which covers arms and legs.
<u>Hygiene measures:</u>	Wash hands after handling. Change contaminated clothing.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Form: Granular.  
Color: Gray-black  
Odor: Odorless.  
pH: Not available.  
Melting point / freezing point: 2000°F  
Boiling point: Not available.  
Evaporation rate: Not relevant.  
Vapor pressure: Not relevant.  
Vapor density: Not relevant.  
Solubility: Insoluble in water  
Partition coefficient (n-octanol/water): Not available.  
Auto-ignition temperature (°C): > 1750°F  
Decomposition temperature (°C): Not available.  
Viscosity: Not relevant.  
Explosive properties: Not available.  
Oxidizing properties: Not available.  
**Other information**  
Other data: SPECIFIC GRAVITY (water=1): 5.5

# SAFETY DATA SHEET

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Reactivity: See hazardous reactions.

### Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

### Possibility of hazardous reactions

Hazardous Reactions: Aggressive reactions are possible if excess moisture is present in the mold or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

### Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point. 1750°F

### Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

### Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Inhalation: Dust may irritate throat and respiratory system and cause coughing. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

Skin contact: Dust has an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

Eye contact: Particles/fumes in the eyes may cause discomfort/irritation.

Ingestion: Ingestion may cause nausea, headache, dizziness and intoxication.  
Dicopper oxide: LD50 > 500 mg/kg

Specific effects: Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxide may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.  
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

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## SECTION 12: ECOLOGICAL INFORMATION

### **Toxicity**

**Ecotoxicity:** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Dicopper oxide: EC50 (Daphnia magna, 48 hours): 0.51 mg/l

### **Persistence and degradability**

**Degradability:** The product solely consists of inorganic compounds which are not biodegradable.

### **Bioaccumulative potential**

**Bioaccumulative potential:** No data available on bioaccumulation.

### **Mobility in soil**

**Mobility:** The product is not volatile but may be spread by dust-raising handling.

### **Results of PBT and vPvB assessment**

**PBT/vPvB:** This product does not contain any PBT or vPvB substances.

### **Other adverse effects**

**Other adverse effects:** None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **Waste treatment methods**

Dispose of waste and residues in accordance with local authority requirements.



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## SECTION 14: TRANSPORT INFORMATION

The product material has been tested by independent facilities in accordance with D.O.T. / U.N. CFR 49 and I.A.T.A. Dangerous Goods Regulations to determine the applicable ratings of this material. Based on the results of this testing, the exothermic mixture contained within the CADWELD PLUS unit and the unit itself is not classified as a flammable solid. These findings indicate that no special package label and no special restrictions apply for transport or shipping of this material by motor vehicle, rail car, sea or air.

### **UN number**

UN-No: -

### **UN proper shipping name**

Proper Shipping Name: -

### **Transport hazard class(es)**

Class: -

### **Packing group**

PG: -

### **Environmental hazards**

Marine pollutant: -

Environmentally Hazardous substance: -

### **Special precautions for user**

Special precautions: -

### **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Transport in bulk: -

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## SECTION 15: REGULATORY INFORMATION

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

Special provisions: State and local regulation may apply.  
TSCA: The ingredients of this product are on the TSCA Inventory.  
SARA Section 302: No  
SARA Section 313: Yes

NFPA Rating: Health:2 Fire:1 Reactivity:1 Other:-  
HMIS Rating: Health:2 Fire:1 Reactivity:1 Personal protection:B

B = Safety Glasses and Gloves.

National regulation: The following lists have been checked:  
Threshold Limit Values (2014), ACGIH, by the American Conference on Governmental Industrial Hygienists.  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.  
NIOSH Pocket Guide to Chemical Hazards.  
The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Hazard Communication, with amendments.  
U.S. Department of health and human services: 2014 - Report on Carcinogens - 13th Edition.  
International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.  
Threshold Limit Values (2015), ACGIH, by the American Conference on Governmental Industrial Hygienists.  
The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification.  
The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.

### Chemical Safety Assessment in compliance with Regulation (EC) No 1907/2006 (REACH)

CSA status: Not relevant.

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## SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 1-16

Abbreviations and acronyms PBT = Persistent, Bioaccumulative and Toxic.  
used in the safety data sheet: vPvB = very Persistent and very Bioaccumulative.

### Wording of H-statements:

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

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

### Product identifier

Product name: CADWELD® Starting Material  
Inclusive of material types: F20, F80, F33, XF19, F76, RBF, Aluminum.  
Applicable prefixes: CA, SB, PB, XF, ACB, ACC, RBF

### Relevant identified uses of the substance or mixture and uses advised against

Application: Exothermic Welding material

### Details of the supplier of the safety data sheet

Manufacturer ERICO International Corporation  
34600 Solon Road  
Solon, Ohio 44139  
Tel:(440) 248-0100

### Emergency telephone number

Emergency telephone: Chemtel  
1-800-255-3924 USA  
+01-813-248-0585 International

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## SECTION 2: HAZARDS IDENTIFICATION

### Classification of the substance or mixture

This product is not sold separately. The following information is provided in regards to the final product making use of Starting Material as its ignition component.

OSHA 2012: Flammable Solid, category 2;H228 - Acute Toxicity, category 4;H302

### Label elements



#### WARNING

H228 Flammable solid.

H302 Harmful if swallowed.

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P260 Do not breathe dust/fume

P280 Wear eye protection and gloves.

P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P273 Avoid release to the environment.

P501 Dispose of contents/container in accordance with local regulations.

P264 Wash skin thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.

P330 Rinse mouth.

### Other hazards

Other: Improper use of the product or inadequate preparation of the conductors, molds or surroundings can result in aggressive reactions. Self-propagating high temperature reaction will occur if heated above ignition temperature. Generates molten metal in excess of 2500°F (1370°C), slag and dense, dusty smoke. The molten product can cause serious burns. Inhalation of powder or fumes may cause metal fume fever. Exposure to reaction by-products: See section 8.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### Mixtures

Only classified substances above threshold limits are shown.

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OSHA 2012:

<u>%:</u>	<u>CAS-No.:</u>	<u>EC No.:</u>	<u>REACH Reg. No.:</u>	<u>Chemical name:</u>	<u>Hazard classification:</u>	<u>Notes:</u>
30-60	7429-90-5	231-072-3	01-2119529243-45-	Aluminium powder (stabilised)	Water-react. 2;H261 Flam. Sol. 1;H228	
1-30	1317-38-0	215-269-1	01-2119502447-44-	Copper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 3;H412	M = 1
1-<25	1317-39-1	215-270-7	01-2119513794-36-	Dicopper oxide	Acute Tox. 4;H302 Aquatic Acute 1;H400 Aquatic Chronic 1;H410	M = 1

Notes: M: M-Factor

References: The full text for all hazard statements is displayed in section 16.

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

Molten product will cause skin burns and if in contact with eyes while in a molten state may cause serious damage.

Inhalation: Inhalation of welding fumes/Dust inhalation: Move into fresh air and keep at rest. In case of persistent throat irritation or coughing: Seek medical attention and bring these instructions.

Skin contact: Remove contaminated clothes and rinse skin thoroughly with water. If material is hot, treat for thermal burns and get immediate medical attention.

Eye contact: Dust in the eyes: Do not rub eye. Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids widely. If irritation persists: Seek medical attention and bring these instructions.

Ingestion: Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.

### Most important symptoms and effects, both acute and delayed

Symptoms/effects: Inhalation of powder or fumes may cause metal fume fever. Symptoms like headache, fatigue and nausea may appear. See section 11 for more detailed information on health effects and symptoms.

### Indication of any immediate medical attention and special treatment needed

Medical attention/treatments: Burns (in contact with molten metal, slag or hot equipment): Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.

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## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

Extinguishing media: Extinguish with dry sand and/or flood with large amounts of water.

Extinguishing media which are not suitable: Hand water buckets or hand storage pumps. Molten metal contact with water can cause small pockets of superheated steam.

Use fire-extinguishing media appropriate for surrounding materials.

### Special hazards arising from the substance or mixture

Specific hazards: During fire, health hazardous gases may be formed.  
Ignition temperature: 850°F

The ignition of the packaging materials may, in rare cases, lead to ignition. Direct application of water is not recommended. This product makes use of fine grade aluminums that have the potential to have adverse chemical reactions if exposed to large volumes of water. These reactions can result in evolution of hydrogen gas that can significantly increase fire intensity and potential "explosion" hazards.

Ignition of large quantities of exothermic materials may result in large volumes of dense smoke.

### Advice for firefighters

Protective equipment for fire-fighters: Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

Personal precautions: Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Follow precautions for safe handling described in this safety data sheet.

Remove sources of ignition. Ventilate well.

### Environmental precautions

Environmental precautions: Precaution should be taken to prevent hot material and reaction byproducts from contact with combustible materials in surrounding areas. Avoid spreading dust or contaminated materials. Avoid discharge to the aquatic environment. Contact local authorities in case of spillage to drain/aquatic environment.

### Methods and material for containment and cleaning up

Spill Cleanup Methods: Remove sources of ignition. Sweep up spilled substance and remove to safe place.  
For large spills use natural fiber brush or broom with a conductive, non-sparking pan.

### Reference to other sections

References: For personal protection, see section 8. For waste disposal, see section 13.

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## SECTION 7: HANDLING AND STORAGE

### **Precautions for safe handling**

**Safe handling advice:** Avoid inhalation of dust. Do not breathe fumes. Avoid contact with skin and eyes. Observe good chemical hygiene practices. CADWELD Exothermic Welding Materials and Filler Materials are designed for use in CADWELD equipment only. Use of improper or damaged equipment can lead to exposure to molten metal and reaction byproducts.

**Technical measures:** Do not smoke or use open fire or other sources of ignition. Work practice should minimize risk of contact. All product instructions should be followed to ensure proper welding and safety. For additional information, see American National Standard, Safety In Welding And Cutting, and Z49.1.

**Technical precautions:** Confined space: Local exhaust is recommended.

### **Conditions for safe storage, including any incompatibilities**

**Technical measures for safe storage:** CADWELD Electrical Welding Materials and Filler Materials should be stored in a clean, dry and secure location. Storage should include provisions to minimize rough handling, excessive vibration and physical abuse. All outer packages must be stored in accordance with label markings. Follow the rules for storage of flammable products.

**Storage conditions:** If evidence is present of damaged or contaminated products, these units should not be used.

If proper storage is maintained, CADWELD Materials do not exhibit any storage or shelf life.

### **Specific end use(s)**

**Specific use(s):** Welding material



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## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

A detailed fume analysis was conducted on CADWELD Starting Material. Reaction byproducts were tested for total dust, respirable dust, metals, acids, fluorides, and various elements identified in typical welding fume analysis. All sampling and analysis followed methodologies dictated by the National Institute of Occupational Safety and Health (NIOSH) and by the Occupational Safety and Health Administration (OSHA). A certified Industrial Hygienist did the sample collection and independent labs conducted all analytical work. Data collected was evaluated and compared to limits set by the American Conference of Governmental Industrial Hygienists (ACGIH) and OSHA. No threshold limits are attainable with use of this product as intended.

Occupational exposure limits:

<u>CAS-No.:</u>	<u>Chemical name:</u>	<u>As:</u>	<u>Exposure limits:</u>	<u>Type:</u>	<u>Notes:</u>	<u>References:</u>
7429-90-5	Aluminum, metal, respirable fraction	Al	5 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum, metal, total dust	Al	15 mg/m3	TWA	-	OSHA
7429-90-5	Aluminum metal, respirable fraction	-	1 mg/m3	TWA	A4	ACGIH
7440-50-8	Copper, dusts and mists	Cu	1 mg/m3	TWA	-	OSHA
7440-50-8	Copper dusts and mists	Cu	1 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	-	0.2 mg/m3	TWA	-	ACGIH
7440-50-8	Copper, fume	Cu	0.1 mg/m3	TWA	-	OSHA
1309-37-1	Iron oxide fume	-	10 mg/m3	TWA	-	OSHA
-	Iron oxide (Fe2O3), respirable fraction	-	5 mg/m3	TWA	A4	ACGIH

Notes: A4: Not Classifiable as a Human Carcinogen.

### Exposure controls

Engineering measures: Provide adequate ventilation. Observe Occupational Exposure Limits and minimise the risk of inhalation of dust and fumes.

Personal protection: Personal protection equipment should be chosen according to the relevant standards and in discussion with the supplier of the personal protective equipment. Use special welding equipment for protection of eyes, skin and respiratory system.

Respiratory equipment: Normal use precludes use of special protection as material is generally used out of doors, in small quantities and is of short duration. In case of inadequate ventilation and work of long duration or on large surface areas in confined rooms. Wear suitable respiratory equipment for dusts and metal fumes.

Hand protection: Heat insulated protective gloves. Recommended for handling hot equipment.

Eye protection: Wear goggles/face shield. Avoid direct eye contact with "flash" of light from reaction.

Skin protection: Use protective clothing, which covers arms and legs.

Hygiene measures: Wash hands after handling. Change contaminated clothing.

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## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Form: Powder  
Color: Gray-black  
Odor: Odorless.  
pH: Not available.  
Melting point / freezing point: 1220°F  
Boiling point: Not available.  
Evaporation rate: Not relevant.  
Vapor pressure: Not relevant.  
Vapor density: Not relevant.  
Solubility: Insoluble in water  
Partition coefficient (n-octanol/water): Not available.  
Auto-ignition temperature (°C): >850°F  
Decomposition temperature (°C): Not available.  
Viscosity: Not relevant.  
Explosive properties: Not available.  
Oxidizing properties: Not available.  
**Other information**  
Other data: SPECIFIC GRAVITY (water=1): 4.0

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## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Reactivity: See hazardous reactions.

### Chemical stability

Stability: Stable. Not sensitive to vibrations, shock or impact and is not subject to spontaneous ignition.

### Possibility of hazardous reactions

Hazardous Reactions: Aggressive reactions are possible if excess moisture is present in the mold or on the conductors to be welded. Care should be taken to ensure proper preparation in accordance with instruction prints.

### Conditions to avoid

Conditions/materials to avoid: Temperatures above ignition point. 850°F

### Incompatible materials

Incompatible materials: Typical of problems associated with molten metals.

### Hazardous decomposition products

Hazardous decomposition products: None under normal conditions. Polymerization will not occur.

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on toxicological effects

Inhalation: Dust may irritate throat and respiratory system and cause coughing. Heating above the melting point releases metallic oxides which may cause metal fume fever by inhalation. The symptoms are shivering, fever, malaise and muscular pain.

Skin contact: Dust has an irritating effect on moist skin. Prolonged and/or repeated contact: May cause eczema-like skin disorders (dermatitis). The molten product can cause serious burns.

Eye contact: Particles/fumes in the eyes may cause discomfort/irritation.

Ingestion: Ingestion may cause nausea, headache, dizziness and intoxication.  
Dicopper oxide: LD50 > 500 mg/kg

Specific effects: Frequent inhalation of dust over a long period of time increases the risk of developing lung diseases. Copper oxide may by repeated or prolonged inhalation occasionally cause ulceration and perforation of the nasal septum. Long term exposure to copper containing dusts may cause allergic dermatitis.  
This product contains no ingredient listed on the NTP, OSHA or IARC carcinogen lists.

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## SECTION 12: ECOLOGICAL INFORMATION

### **Toxicity**

**Ecotoxicity:** Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Dicopper oxide: EC50 (Daphnia magna, 48 hours): 0.51 mg/l

### **Persistence and degradability**

**Degradability:** The product solely consists of inorganic compounds which are not biodegradable.

### **Bioaccumulative potential**

**Bioaccumulative potential:** No data available on bioaccumulation.

### **Mobility in soil**

**Mobility:** The product is not volatile but may be spread by dust-raising handling.

### **Results of PBT and vPvB assessment**

**PBT/vPvB:** This product does not contain any PBT or vPvB substances.

### **Other adverse effects**

**Other adverse effects:** None known.

## SECTION 13: DISPOSAL CONSIDERATIONS

### **Waste treatment methods**

Dispose of waste and residues in accordance with local authority requirements.

# SAFETY DATA SHEET

Product name:	CADWELD® Starting Material	Page:	10/12
Supersedes date:	2013-02-19	Revision:	2015-07-21
SDS-ID:	CADWELD_SM_US	Version number:	US-EN/3.1

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## SECTION 14: TRANSPORT INFORMATION

Not shipped or sold separately

Due to the minimal quantity present per package, this material and the CADWELD Welding Materials and Filler Materials package is shipped under provisions outlined under D.O.T. / U.N. 49 CFR 171.1 "General Regulations for the Transportation of Hazardous Material" and 173.4 "Exceptions for Small Quantities". All materials are packaged and marked at the factory in full compliance with these regulations.

### UN number

UN-No: 3089

### UN proper shipping name

Proper Shipping Name: METAL POWDER, FLAMMABLE, N.O.S. (Aluminum powder (stabilized))

### Transport hazard class(es)

Class: 4.1

### Packing group

PG: II

### Environmental hazards

Marine pollutant: -

Environmentally Hazardous substance: -

### Special precautions for user

Special precautions: -

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk: -

# SAFETY DATA SHEET

Product name:	CADWELD® Starting Material	Page:	11/12
Supersedes date:	2013-02-19	Revision:	2015-07-21
SDS-ID:	CADWELD_SM_US	Version number:	US-EN/3.1

## SECTION 15: REGULATORY INFORMATION

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

Special provisions: State and local regulation may apply.

TSCA: The ingredients of this product are on the TSCA Inventory.

SARA Section 302: No

SARA Section 313: Yes

NFPA Rating: Health:2 Fire:1 Reactivity:1 Other:-

HMIS Rating: Health:2 Fire:1 Reactivity:1 Personal protection:B

B = Safety Glasses and Gloves.

National regulation:

The following lists have been checked:

Threshold Limit Values (2014), ACGIH, by the American Conference on Governmental Industrial Hygienists.

The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Air contaminants (OSHA), with amendments.

NIOSH Pocket Guide to Chemical Hazards.

The Code of Federal Regulation, Title 29, part 1910. Occupational Safety and Health Standards, Hazard Communication, with amendments.

U.S. Department of health and human services: 2014 - Report on Carcinogens - 13th Edition.

International Agency for Research on Cancer (IARC): IARC Monographs on the Evaluation of Carcinogenic Risks to Humans. Lyon: IARC, World Health Organization.

Threshold Limit Values (2015), ACGIH, by the American Conference on Governmental Industrial Hygienists.

The Code of Federal Regulation. Title 40, part 355.50. Emergency Planning and Notification.

The Code of Federal Regulation. Title 40, part 372.65. Toxic Chemical Release Reporting: Community Right to Know.

### Chemical Safety Assessment in compliance with Regulation (EC) No 1907/2006 (REACH)

CSA status: Not relevant.

# SAFETY DATA SHEET

Product name:	CADWELD® Starting Material	Page:	12/12
Supersedes date:	2013-02-19	Revision:	2015-07-21
SDS-ID:	CADWELD_SM_US	Version number:	US-EN/3.1

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## SECTION 16: OTHER INFORMATION

The user must be instructed in the proper work procedure and be familiar with the contents of these instructions.

The following sections contain revisions or new statements: 2, 3, 4, 7, 13, 14, 15, 16.

Abbreviations and acronyms PBT = Persistent, Bioaccumulative and Toxic.  
used in the safety data sheet: vPvB = very Persistent and very Bioaccumulative.

### Wording of H-statements:

H228	Flammable solid.
H261	In contact with water releases flammable gases.
H302	Harmful if swallowed.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

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The information on this data sheet represents our current data and is reliable provided that the product is used under the prescribed conditions and in accordance with the application specified on the packaging and/or in the technical guidance literature. Any other use of the product which involves using the product in combination with any other product or any other process is the responsibility of the user.

# **MATERIAL SAFETY DATA SHEET**

## **SECTION 1**

## **PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: CARLON ELECTRICAL PRODUCTS ALL WEATHER QUICKSET CLEAR CEMENT  
Product Numbers: VC9981P, VC9982, VC9983, VC9984, VC9983, VC9985C, VC9983C  
Product Use: Cement for PVC Plastic Pipe  
Formula: PVC Resin in Solvent Solution  
Synonyms: PVC Plastic Pipe Cement  
Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160<sup>th</sup> Street  
P.O. Box 35906 Cleveland, Ohio 44135, U.S.A.  
http://www.oatey.com  
Oatey Phone Number: (216) 267-7100 or (800) 321-9532  
Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.  
Prepared By: Corporate Director - Safety and Environmental Compliance  
Preparation Date: August 25, 2005

## **SECTION 2**

## **COMPOSITION/INFORMATION ON INGREDIENTS**

<u>INGREDIENTS:</u>	<u>%wt/wt:</u>	<u>CAS NUMBER:</u>	<u>ACGIH TLV TWA:</u>	<u>OSHA PEL TWA:</u>	<u>OTHER:</u>
Tetrahydrofuran	40 - 55%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
PVC Resin (Non-hazardous)	12 - 24%	9002-86-2	10 mg/m3	15 mg/m3	None
Acetone	10 - 25%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
Cyclohexanone	10 - 20%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None
OSHA Hazard Classification: Flammable, irritant, organ effects					

## **SECTION 3**

## **HAZARDS IDENTIFICATION**

Emergency Overview:  
Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

## **SECTION 4**

## **FIRST AID MEASURES**

CALL 1-303-623-5716 COLLECT

Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.

Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.

Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.

Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.



**SECTION 5 FIRE FIGHTING MEASURES**

Flashpoint / Method: 0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC  
Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume  
Extinguishing: Use dry chemical, CO<sub>2</sub>, or foam to extinguish fire. Cool fire  
Media: exposed container with water. Water may be ineffective as an  
extinguishing agent.  
Special Fire: Firefighters should wear positive pressure self-contained  
Fighting: breathing apparatus and full protective clothing for fires in  
Procedure: areas where chemicals are used or stored  
Unusual Fire and: Extremely flammable liquid. Keep away from heat and all  
Explosion: sources of ignition including sparks, flames, lighted  
Hazards: cigarettes and pilot lights. Containers may rupture or  
explode in the heat of a fire. Vapors are heavier than air  
and may travel to a remote ignition source and flash back.  
This product contains tetrahydrofuran that may form explosive  
organic peroxide when exposed to air or light or with age.  
Hazardous: Combustion will produce toxic and irritating vapors including  
Decomposition: carbon monoxide, carbon dioxide and hydrogen chloride.  
Products:

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

Spill or: Remove all sources of ignition and ventilate area. Stop leak if it  
Leak: can be done without risk. Personnel cleaning up the spill should  
Procedures: wear appropriate personal protective equipment, including respirators  
if vapor concentrations are high. Soak up spill with an inert  
absorbent such as sand, earth or other non-combusting material. Put  
absorbent material in covered, labeled metal containers. Prevent  
liquid from entering watercourses, sewers and natural waterways.  
Report releases to authorities as required. See Section 13 for  
disposal information.

**SECTION 7 HANDLING AND STORAGE**

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors  
or mists. Use with adequate ventilation (equivalent to outdoors).  
Wash thoroughly after handling. Do not eat, drink or smoke in the  
work area. Keep product away from heat, sparks, flames and all other  
sources of ignition. No smoking in storage or use areas. Keep  
containers closed when not in use.  
Storage: Store in a cool, dry, well-ventilated area away from incompatible  
materials. Keep containers closed when not in use.  
Other: "Empty" containers retain product residue and can be hazardous.  
Follow all MSDS precautions in handling empty containers. Do not cut  
or weld on or near empty or full containers.

**SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

Ventilation: Open doors & windows. Provide ventilation capable of maintaining  
emissions at the point of use below recommended exposure limits. If  
used in enclosed area, use exhaust fans. Exhaust fans should be  
explosion-proof or set up in a way that flammable concentrations of  
solvent vapors are not exposed to electrical fixtures or hot  
surfaces.  
Respiratory: For operations where the exposure limit may be exceeded, a NIOSH  
Protection: approved organic vapor respirator or supplied air respirator is  
recommended. Equipment selection depends on contaminant type and  
concentration, select in accordance with 29 CFR 1910.134 and good  
industrial hygiene practice. For firefighting, use self-contained  
breathing apparatus.  
Skin: Rubber gloves are suitable for normal use of the product. For long  
Protection: exposures chemical resistant gloves may be required such as  
4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

SECTION 8 (Continued)

Eye Protection: Safety glasses with sideshields or safety goggles.  
Other: Eye wash and safety shower should be available.

**SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point: 151 Degrees F / 66 Degrees C  
Melting Point: Not Applicable  
Vapor Pressure: 145 mmHg @ 20 Degrees C  
Vapor Density: (Air = 1) 2.5  
Volatile Components: 81-85%  
Solubility In Water: Negligible  
pH: Not Applicable  
Specific Gravity: 0.94 +/- 0.01 @ 20 Degrees C  
Evaporation Rate: (BUAC = 1) = 5.5 - 8.0  
Appearance: Clear Liquid  
Odor: Ether-Like  
Will Dissolve In: Tetrahydrofuran  
Material Is: Liquid

**SECTION 10 STABILITY AND REACTIVITY**

Stability: Stable.  
Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.  
Hazardous Combustion will produce toxic and irritating vapors  
Decomposition including carbon monoxide, carbon dioxide and hydrogen  
Products: chloride.  
Incompatibility/ Oxidizing agents, alkalis, amines, ammonia, acids, chlorine  
Materials To Avoid: compounds, chlorinated inorganics (potassium, calcium and  
sodium hypochlorite) and hydrogen peroxides. May attack  
plastic, resins and rubber.  
Hazardous Will not occur.  
Polymerization:

**SECTION 11 TOXICOLOGICAL INFORMATION**

Inhalation: Vapors or mists may cause mucous membrane and respiratory  
irritation, coughing, headache, dizziness, dullness, nausea,  
shortness of breath and vomiting. High concentrations may cause  
central nervous system depression, narcosis and unconsciousness.  
May cause kidney, liver and lung damage.  
Skin: May cause irritation with redness, itching and pain. Cyclohexanone  
may be absorbed through the skin causing effects similar to those  
listed under inhalation.  
Eye: Vapors may cause irritation. Direct contact may cause irritation  
with redness, stinging and tearing of the eyes. May cause eye  
damage.  
Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and  
diarrhea. Aspiration during swallowing or vomiting can cause  
chemical pneumonia and lung damage. May cause kidney and liver  
damage.  
Chronic Prolonged or repeated overexposure cause dermatitis and damage  
Toxicity: to the kidney, liver, lungs and central nervous system.  
Toxicity Data: Acetone: Oral rat LD50: 5,800 mg/kg  
Inhalation rat LC50: 50,100 mg/m3/8 hours  
Cyclohexanone: Oral rat LD50: 1,620 mg/kg  
Inhalation rat LC50: 8,000 ppm/4 hours  
Skin rabbit LD50: 1 mL/kg  
Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg  
Inhalation rat LC50: 21,000 ppm/3 hours

SECTION 11 (Continued)

Sensitization: None of the components are known to cause sensitization.

Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.

Mutagenicity: Cyclohexanone has been positive in bacterial and mammalian assays. Acetone and tetrahydrofuran are generally thought not to be mutagenic.

Reproductive Toxicity: Cyclohexanone has been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

**SECTION 12 ECOLOGICAL INFORMATION**

This product is not expected to be toxic to aquatic organisms.

Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.

Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.

Acetone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.

VOC Level: 600 g/l per SCAQMD Test Method 316A.

**SECTION 13 DISPOSAL CONSIDERATIONS**

Waste Disposal: Dispose in accordance with current local, state and federal regulations.

RCRA Hazardous Waste Number: U002, U057, U213

EPA Hazardous Waste ID Number: D001, F003

EPA Hazard Waste Class: Ignitable Waste.

#### SECTION 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
Proper Shipping Name:	Consumer Commodity	Adhesives
Hazard Class/Packing Group:	ORM-D	3, PGII
UN/NA Number:	None	UN1133
Hazard Labels:	None	Flammable Liquid
IMDG		
Proper Shipping Name:	Adhesives	Adhesives
Hazard Class/Packing Group:	3, II	3, II
UN Number:	UN1133	UN1133
Label:	None (Limited Quantities are excepted from labeling)	Class 3 (Flammable Liquid)
2004 North American Emergency Response Guidebook Number: 127 or 128		

#### SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312:	Acute Health, Chronic Health, Flammable
Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.
Section 313 Toxic Chemicals:	This product contains no chemicals subject to SARA Title III Section 313 Reporting requirements.
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (55% maximum) of 1,000 lbs, is 1,818 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.
California Proposition 65:	This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.
TSCA Inventory:	All of the components of this product are listed on the TSCA inventory.
Canadian WHIMS Classification:	Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

#### SECTION 16

NFPA and HMIS:

NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None

HMIS Hazard Signal: Health: 2\* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

# **MATERIAL SAFETY DATA SHEET**

## **SECTION 1**

## **PRODUCT AND COMPANY IDENTIFICATION**

Trade Name: CARLON ELECTRICAL PRODUCTS STANDARD CLEAR PVC SOLVENT CEMENT  
Product Numbers: VC9961P, VC9962, VC9963, VC9964, VC9963C, VC9965C  
Product Use: Cement for PVC Plastic Pipe  
Formula: PVC Resin in Solvent Solution  
Synonyms: PVC Plastic Pipe Cement  
Firm Name & Mailing Address: CARLON ELECTRICAL PRODUCTS c/o OATEY CO. 4700 West 160<sup>th</sup> Street  
P.O. Box 35906 Cleveland, Ohio 44135, U.S.A.  
http://www.oatey.com  
Oatey Phone Number: (216) 267-7100 or (800) 321-9532  
Emergency Phone Numbers: For Emergency First Aid call 1-303-623-5716 COLLECT. For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300. Outside the U.S. 1-703-527-3887.  
Prepared By: Corporate Director - Safety and Environmental Compliance  
Preparation Date: August 25, 2005

## **SECTION 2**

## **COMPOSITION/INFORMATION ON INGREDIENTS**

<u>INGREDIENTS:</u>	<u>%wt/wt:</u>	<u>CAS NUMBER:</u>	<u>ACGIH TLV TWA:</u>	<u>OSHA PEL TWA:</u>	<u>OTHER:</u>
Tetrahydrofuran	30 - 65%	109-99-9	50 ppm(skin) 100 ppm STEL	200 ppm	25 ppm (Mfg)
Methyl Ethyl Ketone	10 - 30%	78-93-3	200 ppm 300 ppm STEL	200 ppm	None
Acetone	10 - 20%	67-64-1	500 ppm 750 ppm STEL	1000 ppm	None
PVC Resin (Non-hazardous)	10 - 20%	9002-86-2	10 mg/m3	15 mg/m3	None
Cyclohexanone	7 - 13%	108-94-1	20 ppm(skin) 50 ppm STEL	50 ppm	None
Amorphous Fumed Silica (Non-hazardous)	1 - 5%	112945-52-5	10 mg/m3	None Established	None

OSHA Hazard Classification: Flammable, irritant, organ effects

## **SECTION 3**

## **HAZARDS IDENTIFICATION**

Emergency Overview:  
Clear liquid with an ether-like odor. Extremely flammable liquid and vapor. Vapors may cause flash fire. May cause eye and skin irritation. Inhalation of vapors or mist may cause respiratory irritation and central nervous system effects. Swallowing may cause irritation, nausea, vomiting, diarrhea and kidney or liver disorders. Aspiration hazard. May be fatal if swallowed. Symptoms may be delayed.

## **SECTION 4**

## **FIRST AID MEASURES**

CALL 1-303-623-5716 COLLECT  
Skin: Remove contaminated clothing immediately. Wash all exposed areas with soap and water. Get medical attention if irritation develops. Remove dried cement with Oatey Plumber's Hand Cleaner or baby oil.  
Eyes: If material gets into eyes or if fumes cause irritation, immediately flush eyes with plenty of water until chemical is removed. If irritation persists, get medical attention immediately.  
Inhalation: If symptoms of exposure develop, remove to fresh air. If breathing becomes difficult, administer oxygen. Administer artificial respiration if breathing has stopped. Seek immediate medical attention.  
Ingestion: **DO NOT INDUCE VOMITING.** Rinse mouth with water. Never give anything by mouth to a person who is unconscious or drowsy. Get immediate medical attention by calling a Poison Control Center, or hospital emergency room. If medical advice cannot be obtained, then take the person and product to the nearest medical emergency treatment center or hospital.

## **SECTION 5 FIRE FIGHTING MEASURES**

Flashpoint / Method: 0 - 5 Degrees F. (-18 - -15 Degrees C / PMCC  
Flammability: LEL = 1.8 % Volume, UEL = 11.8 % Volume  
Extinguishing: Use dry chemical, CO<sub>2</sub>, or foam to extinguish fire. Cool fire exposed container with water. Water may be ineffective as an extinguishing agent.  
Media:  
Special Fire Fighting Procedure: Firefighters should wear positive pressure self-contained breathing apparatus and full protective clothing for fires in areas where chemicals are used or stored  
Unusual Fire and Explosion Hazards: Extremely flammable liquid. Keep away from heat and all sources of ignition including sparks, flames, lighted cigarettes and pilot lights. Containers may rupture or explode in the heat of a fire. Vapors are heavier than air and may travel to a remote ignition source and flash back. This product contains tetrahydrofuran that may form explosive organic peroxide when exposed to air or light or with age.  
Hazardous Decomposition Products: Combustion will produce toxic and irritating vapors including carbon monoxide, carbon dioxide and hydrogen chloride.

## **SECTION 6 ACCIDENTAL RELEASE MEASURES**

Spill or Leak Procedures: Remove all sources of ignition and ventilate area. Stop leak if it can be done without risk. Personnel cleaning up the spill should wear appropriate personal protective equipment, including respirators if vapor concentrations are high. Soak up spill with an inert absorbent such as sand, earth or other non-combusting material. Put absorbent material in covered, labeled metal containers. Prevent liquid from entering watercourses, sewers and natural waterways. Report releases to authorities as required. See Section 13 for disposal information.

## **SECTION 7 HANDLING AND STORAGE**

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapors or mists. Use with adequate ventilation (equivalent to outdoors). Wash thoroughly after handling. Do not eat, drink or smoke in the work area. Keep product away from heat, sparks, flames and all other sources of ignition. No smoking in storage or use areas. Keep containers closed when not in use.  
Storage: Store in a cool, dry, well-ventilated area away from incompatible materials. Keep containers closed when not in use.  
Other: "Empty" containers retain product residue and can be hazardous. Follow all MSDS precautions in handling empty containers. Do not cut or weld on or near empty or full containers.

## **SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION**

Ventilation: Open doors & windows. Provide ventilation capable of maintaining emissions at the point of use below recommended exposure limits. If used in enclosed area, use exhaust fans. Exhaust fans should be explosion-proof or set up in a way that flammable concentrations of solvent vapors are not exposed to electrical fixtures or hot surfaces.  
Respiratory Protection: For operations where the exposure limit may be exceeded, a NIOSH approved organic vapor respirator or supplied air respirator is recommended. Equipment selection depends on contaminant type and concentration, select in accordance with 29 CFR 1910.134 and good industrial hygiene practice. For firefighting, use self-contained breathing apparatus.  
Skin Protection: Rubber gloves are suitable for normal use of the product. For long exposures chemical resistant gloves may be required such as 4H(tm) or Silver Shield(tm) to avoid prolonged skin contact.

**SECTION 8 (Continued)**

Eye Safety glasses with sideshields or safety goggles.  
Protection:  
Other: Eye wash and safety shower should be available.

**SECTION 9**

**PHYSICAL AND CHEMICAL PROPERTIES**

Boiling Point: 151 Degrees F / 66 Degrees C  
Melting Point: Not Applicable  
Vapor Pressure: 145 mmHg @ 20 Degrees C  
Vapor Density: (Air = 1) 2.5  
Volatile Components: 81-85%  
Solubility In Water: Negligible  
pH: Not Applicable  
Specific Gravity: 0.94 +/- 0.01 @ 20 Degrees C  
Evaporation Rate: (BUAC = 1) = 5.5 - 8.0  
Appearance: Clear Liquid  
Odor: Ether-Like  
Will Dissolve In: Tetrahydrofuran  
Material Is: Liquid

**SECTION 10**

**STABILITY AND REACTIVITY**

Stability: Stable.  
Conditions To Avoid: Avoid heat, sparks, flames and other sources of ignition.  
Hazardous Combustion will produce toxic and irritating vapors  
Decomposition including carbon monoxide, carbon dioxide and hydrogen  
Products: chloride.  
Incompatibility/ Oxidizing agents, alkalis, amines, ammonia, acids, chlorine  
Materials To Avoid: compounds, chlorinated inorganics (potassium, calcium and  
sodium hypochlorite) and hydrogen peroxides. May attack  
plastic, resins and rubber.  
Hazardous Will not occur.  
Polymerization:

**SECTION 11**

**TOXICOLOGICAL INFORMATION**

Inhalation: Vapors or mists may cause mucous membrane and respiratory  
irritation, coughing, headache, dizziness, dullness, nausea,  
shortness of breath and vomiting. High concentrations may cause  
central nervous system depression, narcosis and unconsciousness.  
May cause kidney, liver and lung damage.  
Skin: May cause irritation with redness, itching and pain. Cyclohexanone  
may be absorbed through the skin causing effects similar to those  
listed under inhalation.  
Eye: Vapors may cause irritation. Direct contact may cause irritation  
with redness, stinging and tearing of the eyes. May cause eye  
damage.  
Ingestion: Swallowing may cause abdominal pain, nausea, vomiting and  
diarrhea. Aspiration during swallowing or vomiting can cause  
chemical pneumonia and lung damage. May cause kidney and liver  
damage.  
Chronic Prolonged or repeated overexposure cause dermatitis and damage  
Toxicity: to the kidney, liver, lungs and central nervous system.  
Toxicity Data: Acetone: Oral rat LD50: 5,800 mg/kg  
Inhalation rat LC50: 50,100 mg/m3/8 hours  
Cyclohexanone: Oral rat LD50: 1,620 mg/kg  
Inhalation rat LC50: 8,000 ppm/4 hours  
Skin rabbit LD50: 1 mL/kg  
Tetrahydrofuran: Oral rat LD50: 1,650 mg/kg  
Inhalation rat LC50: 21,000 ppm/3 hours  
Methyl Ethyl Ketone: Oral rat LD50: 2,737mg/kg  
Inhalation rat LC50: 23,500mg/m3/8 hours  
Skin rabbit LD50: 6,480 mg/kg

**SECTION 11** (Continued)

Sensitization: None of the components are known to cause sensitization.

Carcinogenicity: None of the components are listed as a carcinogen or suspect carcinogen by NTP, IARC or OSHA. The National Toxicology Program has reported that exposure of mice and rats to tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health is unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. ACGIH has classified cyclohexanone (CYH) and tetrahydrofuran as "A3," Confirmed Animal Carcinogens with Unknown Relevance to Humans.

Mutagenicity: Cyclohexanone has been positive in bacterial and mammalian assays. Acetone, methyl ethyl ketone and tetrahydrofuran are generally thought not to be mutagenic.

Reproductive Toxicity: Cyclohexanone and methyl ethyl ketone have been shown to cause embryofetal toxicity and birth defects in laboratory animals. Acetone and tetrahydrofuran have been found to cause adverse developmental effects only when exposure levels cause other toxic effects to the mother.

Medical Conditions Aggravated By Exposure: Persons with pre-existing skin, lung, kidney or liver disorders may be at increased risk from exposure to this product.

**SECTION 12** **ECOLOGICAL INFORMATION**

This product is not expected to be toxic to aquatic organisms.

Cyclohexanone: 96 hour LC50 values for fish is over 100 mg/l.

Tetrahydrofuran: 96 hour LC50 fathead minnow: 2160 mg/L.

Methyl Ethyl Ketone: 96 hour LC50 for fish is greater than 100 mg/L.

Acetone: 96 hour LC50 for fish is greater than 100 mg/L.

VOC Information: This product emits VOC's (volatile organic compounds) in its use. Make sure that use of this product complies with local VOC emission regulations, where they exist.

VOC Level: 600 g/l per SCAQMD Test Method 316A.

**SECTION 13** **DISPOSAL CONSIDERATIONS**

Waste Disposal: Dispose in accordance with current local, state and federal regulations.

RCRA Hazardous Waste Number: U002, U057, U159, U213

EPA Hazardous Waste ID Number: D001, D035, F003, F005

EPA Hazard Waste Class: Ignitable Waste. Toxic Waste (Methyl Ethyl Ketone content)



## SECTION 14 TRANSPORT INFORMATION

DOT	Less than 1 Liter (0.3 gal)	Greater than 1 Liter (0.3 gal)
Proper Shipping Name:	Consumer Commodity	Adhesives
Hazard Class/Packing Group:	ORM-D	3, PGII
UN/NA Number:	None	UN1133
Hazard Labels:	None	Flammable Liquid
IMDG		
Proper Shipping Name:	Adhesives	Adhesives
Hazard Class/Packing Group:	3, II	3, II
UN Number:	UN1133	UN1133
Label:	None (Limited Quantities are excepted from labeling)	Class 3 (Flammable Liquid)
2004 North American Emergency Response Guidebook Number: 127 or 128		

## SECTION 15 REGULATORY INFORMATION

Hazard Category for Section 311/312:	Acute Health, Chronic Health, Flammable		
Section 302 Extremely Hazardous Substances (TPQ):	This product does not contain chemicals regulated under SARA Section 302.		
Section 313 Toxic Chemicals:	This product contains the following chemicals subject to SARA Title III Section 313 Reporting requirements:		
	<u>Chemical</u>	<u>CAS #</u>	<u>% by wt.</u>
	Methyl Ethyl Ketone	78-93-3	10-30%
CERCLA 103 Reportable Quantity:	Spills of this product over the RQ (reportable quantity) must be reported to the National Response Center. The RQ for the product, based on the RQ for Tetrahydrofuran (65% maximum) of 1,000 lbs, is 1,538 lbs. Many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.		
California Proposition 65:	This product contains trace amounts of chemicals known to the State of to cause cancer. Under normal Use conditions, exposure to these chemicals at levels above the State of California "No Significant Risk Level" (NSRL) are unlikely. Oatey strongly encourages the use of proper personal protective equipment (PPE) and ventilation guidelines noted in Section 8 to minimize exposure to these chemicals.		
TSCA Inventory:	All of the components of this product are listed on the TSCA inventory.		
Canadian WHIMS Classification:	Class B, Division 2; Class D, Division 2, Subdivision B. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.		

## SECTION 16

NFPA and HMIS:

NFPA Hazard Signal: Health: 2 Flammability: 3 Reactivity: 1 Special: None

HMIS Hazard Signal: Health: 2\* Flammability: 3 Reactivity: 1 PPE: G

Disclaimer:

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.