



## Solderlene

### SECTION 1: IDENTIFICATION

- 1.1 Product identifier:** Solderlene  
**Other means of identification:**  
30004, 30016
- 1.2 Recommended use of the chemical and restrictions on use:**  
**Application of the substance / the preparation** Soldering Flux , For professional users/industrial user only  
Uses advised against: All uses not specified in this section or in section 7.3
- 1.3 Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party:**  
Highside Chemicals, Inc.  
11114 Reichold Rd.  
39503 Gulfport - Mississippi - United States  
Phone: 228-896-9220, 800-359-5599
- 1.4 Emergency phone number:** ChemTel Inc. (800)255-3924, +1 (813)248-0585

### SECTION 2: HAZARD(S) IDENTIFICATION

- 2.1 Classification of the substance or mixture:**  
**NFPA:**  
Health Hazards: 3  
Flammability Hazards: 0  
Instability Hazards: 0  
Special Hazards: Not applicable (N/A)  
**In Accordance With: 29 CFR 1910.1200:**  
Classification of this product has been carried out in accordance with paragraph (d) of § 1910.1200.  
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302  
Eye Dam. 1: Serious eye damage, Category 1, H318  
Skin Corr. 1B: Skin corrosion, Category 1B, H314  
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335  
**In Accordance With: CLP Regulation (EC) No 1272/2008:**  
Acute Tox. 4: Acute toxicity if swallowed, Category 4, H302  
Aquatic Chronic 2: Hazardous to the aquatic environment, long-term hazard, Category 2, H411  
Eye Dam. 1: Serious eye damage, Category 1, H318  
Skin Corr. 1B: Skin corrosion, Category 1B, H314  
STOT SE 3: Respiratory tract toxicity, single exposure, Category 3, H335  
**In Accordance With: WHMIS 2015:**  
Carc. 1B: Carcinogenicity, Category 1B, H350  
Skin Corr. 1B: Skin corrosion, Category 1B, H314
- 2.2 Label elements:**  
**NFPA:**  
  
**In Accordance With: 29 CFR 1910.1200 / CLP Regulation (EC) No 1272/2008 / WHMIS 2015**  
**Danger**  


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**SECTION 2: HAZARD(S) IDENTIFICATION (continued)**

**Hazard statements:**

Acute Tox. 4: H302 - Harmful if swallowed.  
 Aquatic Chronic 2: H411 - Toxic to aquatic life with long lasting effects.  
 Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.  
 Carc. 1B: H350 - May cause cancer.  
 STOT SE 3: H335 - May cause respiratory irritation.

**Precautionary statements:**

P280: Wear protective gloves/face protection/protective clothing/respiratory protection/protective footwear.  
 P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 P303+P361+P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310: Immediately call a poison center/doctor.  
 P403+P233: Store in a well-ventilated place. Keep container tightly closed.  
 P501: Dispose of contents and / or containers in accordance with regulations on hazardous waste or packaging and packaging waste respectively.

**Substances that contribute to the classification**

zinc chloride; ammonium chloride

**2.3 Hazards not otherwise classified (HNOC):**

**In Accordance With: 29 CFR 1910.1200 / WHMIS 2015**

Not applicable (N/A)

**In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Product fails to meet PBT/vPvB criteria  
 Endocrine-disrupting properties: The product fails to meet the criteria.

**SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.1 Substances:**

Non-applicable



**3.2 Mixtures:**

**In Accordance With: 29 CFR 1910.1200**

**Chemical description:** Mixture composed of chemical products

**Components:**

Remaining components are non-hazardous and/or present at amounts below reportable limits. The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200. Therefore, in accordance with Appendix D to § 1910.1200, the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 7646-85-7	<b>zinc chloride</b> Acute Tox. 4: H302; Skin Corr. 1B: H314 - Danger	 <b>10 - &lt;25 %</b>
CAS: 12125-02-9	<b>ammonium chloride</b> Acute Tox. 4: H302; Eye Irrit. 2A: H319 - Warning	 <b>1 - &lt;2.5 %</b>



To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

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#### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS (continued)

##### In Accordance With: COMMISSION REGULATION (EU) 2020/878

In accordance with Annex II of Regulation (EC) No 1907/2006 (point 3), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 7646-85-7 EC: 231-592-0 Index: 030-003-00-2 REACH: 01-2119472431-44-XXXX	<b>zinc chloride</b> <sup>(*)</sup> Regulation 1272/2008 Acute Tox. 4: H302; Aquatic Acute 1: H400; Aquatic Chronic 1: H410; Skin Corr. 1B: H314 - Danger	ATP CLP00  <b>10 - &lt;25 %</b>
CAS: 12125-02-9 EC: 235-186-4 Index: 017-014-00-8 REACH: 01-2119489385-24-XXXX	<b>ammonium chloride</b> <sup>(*)</sup> Regulation 1272/2008 Acute Tox. 4: H302; Eye Irrit. 2: H319 - Warning	ATP CLP00  <b>1 - &lt;2.5 %</b>

(\*) Substances presenting a health or environmental hazard which meet criteria laid down in Regulation (EU) No. 2020/878

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

##### Other information:



Identification	Specific concentration limit
zinc chloride CAS: 7646-85-7 EC: 231-592-0	% (w/w) >=5: STOT SE 3 - H335

Acute toxicity estimate for the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008 or as determined in accordance with Annex I to that Regulation:

Identification	Acute toxicity	Genus
ammonium chloride CAS: 12125-02-9 EC: 235-186-4	LD50 oral	1410 mg/kg
	LD50 dermal	Not relevant
	LC50 inhalation	Not relevant
zinc chloride CAS: 7646-85-7 EC: 231-592-0	LD50 oral	528 mg/kg
	LD50 dermal	Not relevant
	LC50 inhalation	Not relevant

##### In Accordance With: WHMIS 2015

In accordance with Schedule I of the Hazardous Products Regulations (SOR/2015-17), the product contains:

Identification	Chemical name/Classification	Concentration
CAS: 7646-85-7	<b>zinc chloride</b> Acute Tox. 4: H302; Skin Corr. 1B: H314 - Danger	 <b>10 - &lt;30 %</b>
CAS: 12125-02-9	<b>ammonium chloride</b> Acute Tox. 4: H302; Eye Irrit. 2: H319 - Warning	 <b>1 - &lt;5 %</b>

To obtain more information on the hazards of the substances consult sections 11, 12 and 16.

**Solderlene****SECTION 4: FIRST-AID MEASURES****4.1 Description of necessary measures:**

Request medical assistance immediately, showing the SDS of this product.

**By inhalation:**

Remove the person affected from the area of exposure, provide with fresh air and keep at rest. In serious cases such as cardiorespiratory failure, artificial resuscitation techniques will be necessary (mouth to mouth resuscitation, cardiac massage, oxygen supply, etc.) requiring immediate medical assistance.

**By skin contact:**

Remove contaminated clothing and footwear, rinse skin or shower the person affected if appropriate with plenty of cold water and neutral soap. In serious cases see a doctor. If the product causes burns or freezing, clothing should not be removed as this could worsen the injury caused if it is stuck to the skin. If blisters form on the skin, these should never be burst as this will increase the risk of infection.

**By eye contact:**

Rinse eyes thoroughly with lukewarm water for at least 15 minutes. Do not allow the person affected to rub or close their eyes. If the injured person uses contact lenses, these should be removed unless they are stuck to the eyes, as this could cause further damage. In all cases, after cleaning, a doctor should be consulted as quickly as possible with the SDS of the product.

**By ingestion/aspiration:**

Request immediate medical assistance, showing the SDS of this product. Do not induce vomiting, because its expulsion from the stomach can be hazardous to the mucus of the main digestive tract, and its inhalation, to the respiratory system. Rinse out the mouth and throat, as they may have been affected during ingestion. In the case of loss of consciousness do not administer anything orally unless supervised by a doctor. Keep the person affected at rest.

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

Acute and delayed effects are indicated in sections 2 and 11.

**4.3 Indication of immediate medical attention and special treatment needed, if necessary:**

Not applicable (N/A)

**SECTION 5: FIRE-FIGHTING MEASURES****5.1 Suitable (and unsuitable) extinguishing media:****Suitable extinguishing media:**

Product is non-flammable under normal conditions of storage, handling and use. In the case of combustion as a result of improper handling, storage or use preferably use polyvalent powder extinguishers (ABC powder), in accordance with the Regulation on fire protection systems.

**Unsuitable extinguishing media:**

Non-applicable

**5.2 Specific hazards arising from the chemical:**

As a result of combustion or thermal decomposition reactive sub-products are created that can become highly toxic and, consequently, can present a serious health risk.

**5.3 Special protective equipment and precautions for fire-fighters:**

Depending on the magnitude of the fire it may be necessary to use full protective clothing and individual respiratory equipment. Minimum emergency facilities and equipment should be available (fire blankets, portable first aid kit,...) in accordance with Directive 89/654/EC.

**Additional provisions:****In Accordance With: 29 CFR 1910.1200**

As in any fire, prevent human exposure to fire, smoke, fumes or products of combustion. Only properly trained personnel should be involved in firefighting. Evacuate nonessential personnel from the fire area. Destroy any source of ignition. In case of fire, refrigerate the storage containers and tanks for products susceptible to inflammation. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

**In Accordance With: COMMISSION REGULATION (EU) 2020/878 / WHMIS 2015**

Act in accordance with the Internal Emergency Plan and the Information Sheets on actions to take after an accident or other emergencies. Eliminate all sources of ignition. In case of fire, cool the storage containers and tanks for products susceptible to combustion, explosion or BLEVE as a result of high temperatures. Avoid spillage of the products used to extinguish the fire into an aqueous medium.

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**Solderlene****SECTION 6: ACCIDENTAL RELEASE MEASURES****6.1 Personal precautions, protective equipment and emergency procedures:****For non-emergency personnel:**

Isolate leaks provided that there is no additional risk for the people performing this task. Evacuate the area and keep out those without protection. Personal protection equipment must be used against potential contact with the spilt product (See section 8). Above all prevent the formation of any vapour-air flammable mixtures, through either ventilation or the use of an inert medium. Remove any source of ignition. Eliminate electrostatic charges by interconnecting all the conductive surfaces on which static electricity could form, and also ensuring that all surfaces are connected to the ground.

**For emergency responders:**

Wear protective equipment. Keep unprotected persons away. See section 8.

**6.2 Environmental precautions:**

This product is not classified as hazardous to the environment. Keep product away from drains, surface and underground water.

**6.3 Methods and materials for containment and cleaning up:****In Accordance With: 29 CFR 1910.1200**

For accidental releases in excess of reportable quantities (RQ) (Table 302.4), refer to 40 CFR 302 for detailed instructions concerning reporting requirements and notify the National Response Center (800) 424-8802.

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**In Accordance With: COMMISSION REGULATION (EU) 2020/878 / WHMIS 2015**

It is recommended:

Absorb the spillage using sand or inert absorbent and move it to a safe place. Do not absorb in sawdust or other combustible absorbents. For any concern related to disposal consult section 13.

**6.4 Reference to other sections:**

See sections 8 and 13.

**SECTION 7: HANDLING AND STORAGE****7.1 Precautions for safe handling:**

A.- General precautions for safe use

Comply with the current standards 29 CFR 1910 Occupational Safety and Health Standards. Keep containers hermetically sealed. Control spills and residues, destroying them with safe methods (section 6). Avoid leakages from the container. Maintain order and cleanliness where dangerous products are used.

B.- Technical recommendations for the prevention of fires and explosions

Product is non-flammable under normal conditions of storage, manipulation and use. It is recommended to transfer at slow speeds to avoid the generation of electrostatic charges that can affect flammable products. Consult section 10 for information on conditions and materials that should be avoided.

C.- Technical recommendations on general occupational hygiene

Do not eat or drink during the process, washing hands afterwards with suitable cleaning products.

D.- Technical recommendations to prevent environmental risks

It is recommended to have absorbent material available at close proximity to the product (See subsection 6.3)

**7.2 Conditions for safe storage, including any incompatibilities: In Accordance With: 29 CFR 1910.1200**

A.- Technical measures for storage

Minimum Temp.: 41 °F

Maximum Temp.: 86 °F

Maximum time: 6 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

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**SECTION 7: HANDLING AND STORAGE (continued)**

**In Accordance With: COMMISSION REGULATION (EU) 2020/878 / WHMIS 2015**

A.- Technical measures for storage

- Minimum Temp.: 5 °C
- Maximum Temp.: 30 °C
- Maximum time: 6 Months

B.- General conditions for storage

Avoid sources of heat, radiation, static electricity and contact with food. For additional information see subsection 10.5

**7.3 Specific end use(s):**

Except for the instructions already specified it is not necessary to provide any special recommendation regarding the uses of this product.

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

**8.1 Control parameters: In Accordance With: 29 CFR 1910.1200**

Substances whose occupational exposure limits have to be assessed in the workplace:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000):

Identification	Occupational exposure limits	
	8-hour TWA PEL	Ceiling Values - TWA PEL
zinc chloride CAS: 7646-85-7		1 mg/m <sup>3</sup>

US. ACGIH Threshold Limit Values (2022):

Identification	Occupational exposure limits	
	TLV-TWA	TLV-STEL
zinc chloride CAS: 7646-85-7	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
ammonium chloride CAS: 12125-02-9	10 mg/m <sup>3</sup>	20 mg/m <sup>3</sup>

CALIFORNIA- TABLE AC-1 PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS:

Identification	Occupational exposure limits	
	PEL	STEL
zinc chloride CAS: 7646-85-7	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
ammonium chloride CAS: 12125-02-9	10 mg/m <sup>3</sup>	20 ppm

**Control parameters: In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Substances whose occupational exposure limits have to be monitored in the workplace (European OEL, not country-specific legislation):

There are no applicable occupational exposure limits for the substances contained in the product

**DNEL (Workers):**

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
zinc chloride CAS: 7646-85-7 EC: 231-592-0	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	8,3 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	1 mg/m <sup>3</sup>	Not relevant
ammonium chloride CAS: 12125-02-9 EC: 235-186-4	Oral	Not relevant	Not relevant	Not relevant	Not relevant
	Dermal	Not relevant	Not relevant	128,9 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	43,97 mg/m <sup>3</sup>	Not relevant

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

#### Control parameters: In Accordance With: COMMISSION REGULATION (EU) 2020/878

##### DNEL (General population):

Identification		Short exposure		Long exposure	
		Systemic	Local	Systemic	Local
zinc chloride CAS: 7646-85-7 EC: 231-592-0	Oral	Not relevant	Not relevant	0,83 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	8,3 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	1,25 mg/m <sup>3</sup>	Not relevant
ammonium chloride CAS: 12125-02-9 EC: 235-186-4	Oral	55,2 mg/kg	Not relevant	55,2 mg/kg	Not relevant
	Dermal	Not relevant	Not relevant	55,2 mg/kg	Not relevant
	Inhalation	Not relevant	Not relevant	9,4 mg/m <sup>3</sup>	Not relevant

##### PNEC:

Identification					
zinc chloride CAS: 7646-85-7 EC: 231-592-0	STP	0,1 mg/L	Fresh water	0,0206 mg/L	
	Soil	35,6 mg/kg	Marine water	0,0061 mg/L	
	Intermittent	Not relevant	Sediment (Fresh water)	117,8 mg/kg	
	Oral	Not relevant	Sediment (Marine water)	56,5 mg/kg	
ammonium chloride CAS: 12125-02-9 EC: 235-186-4	STP	Not relevant	Fresh water	0,25 mg/L	
	Soil	50,7 mg/kg	Marine water	0,025 mg/L	
	Intermittent	0,43 mg/L	Sediment (Fresh water)	Not relevant	
	Oral	Not relevant	Sediment (Marine water)	Not relevant	

#### Control parameters: In Accordance With: WHMIS 2015

British Columbia - Occupational Health and Safety Regulation section 5.48 (Updated March 1, 2022):

Identification	Occupational exposure limits	
zinc chloride CAS: 7646-85-7	TLV-TWA	1 mg/m <sup>3</sup>
	TLV-STEL	2 mg/m <sup>3</sup>
ammonium chloride CAS: 12125-02-9	TLV-TWA	10 mg/m <sup>3</sup>
	TLV-STEL	20 mg/m <sup>3</sup>

ALBERTA - Occupational Health and Safety Code:

Identification	Occupational exposure limits	
zinc chloride CAS: 7646-85-7	8-hour	1 mg/m <sup>3</sup>
	15-minute	2 mg/m <sup>3</sup>
ammonium chloride CAS: 12125-02-9	8-hour	10 mg/m <sup>3</sup>
	15-minute	20 mg/m <sup>3</sup>

## 8.2 Appropriate engineering controls:

A.- Individual protection measures, such as personal protective equipment

As a preventative measure it is recommended to use basic Personal Protection Equipment (where applicable with the corresponding <<CE marking>> in accordance with Regulation (EU) 2016/425). For more information on Personal Protection Equipment (storage, use, cleaning, maintenance, class of protection,...) consult the information leaflet provided by the manufacturer. For more information see subsection 7.1. All information contained herein is a recommendation, the information on clothing performance must be combined with professional judgment, and a clear understanding of the clothing application, to provide the best protection to the worker. All chemical protective clothing use must be based on a hazard assessment to determine the risks for exposure to chemicals and other hazards. Conduct hazard assessments in accordance with 29 CFR 1910.132.

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### SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

#### 8.2 Appropriate engineering controls:


##### B.- Respiratory protection **In Accordance With: 29 CFR 1910.1200 / WHMIS 2015**

Pictogram	PPE	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment. Use respirator in accordance with manufacturer's use limitations and OSHA standard 1910.134 (29CFR)

##### **In Accordance With: COMMISSION REGULATION (EU) 2020/878**



Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory respiratory tract protection	Filter mask for gases and vapours		EN 405:2002+A1:2010	Replace when there is a taste or smell of the contaminant inside the face mask. If the contaminant comes with warnings it is recommended to use isolation equipment.

##### C.- Specific protection for the hands **In Accordance With: 29 CFR 1910.1200 / WHMIS 2015**

Pictogram	PPE	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.11 mm)	The Breakthrough Time indicated by the manufacturer must exceed the period during which the product is being used. Do not use protective creams after the product has come into contact with skin. Use gloves in accordance with manufacturer's use limitations and OSHA standard 1910.138 (29CFR)


As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

##### **In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory hand protection	Chemical protective gloves (Material: Nitrile, Breakthrough time: > 480 min, Thickness: 0.11 mm)		EN ISO 21420:2020	Replace the gloves at any sign of deterioration.

As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance with total reliability and has therefore to be checked prior to the application.

##### D.- Eye and face protection **In Accordance With: 29 CFR 1910.1200 / WHMIS 2015**

Pictogram	PPE	Remarks
 Mandatory face protection	Face shield	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing. Use this PPE in accordance with manufacturer's use limitations and OSHA standard 1910.133 (29CFR)



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**Solderlene**

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**





**D.- Eye and face protection In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory face protection	Face shield		EN 166:2002 UNE-EN ISO 18526-1 al 4:2020 UNE-EN ISO 18526-1 al 4:2020 EN ISO 4007:2018	Clean daily and disinfect periodically according to the manufacturer's instructions. Use if there is a risk of splashing.



**E.- Bodily protection In Accordance With: 29 CFR 1910.1200 / WHMIS 2015**

Pictogram	PPE	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks	For professional use only. Clean periodically according to the manufacturer's instructions.
 Mandatory foot protection	Safety footwear for protection against chemical risk	Replace boots at any sign of deterioration. Use foot protection in accordance with manufacturer's use limitations and OSHA standard 1910.136 (29CFR)

**In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Pictogram	PPE	Labelling	CEN Standard	Remarks
 Mandatory complete body protection	Disposable clothing for protection against chemical risks		EN 13034:2005+A1:2009 UNE-EN ISO 18526-1 al 4:2020 EN ISO 13982-1:2005/A1:2011 EN ISO 6529:2013 EN ISO 6530:2005 EN 464:1995	For professional use only. Clean periodically according to the manufacturer's instructions.
 protection				

**F.- Additional emergency measures**

Emergency measure	Standards	Emergency measure	Standards
 Emergency shower	ANSI Z358-1 ISO 3864-1:2011, ISO 3864-4:2011	 Eyewash stations	DIN 12 899 ISO 3864-1:2011, ISO 3864-4:2011

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**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)**

**Environmental exposure controls:**

In accordance with the community legislation for the protection of the environment it is recommended to avoid environmental spillage of both the product and its container. For additional information see subsection 7.1.D

**40 CFR Part 59 (VOC):**

V.O.C.(weight-percent): 0 % weight  
 V.O.C. at 68 °F: 0 kg/m<sup>3</sup> (0 g/L)

**California Air Resources Board (CARB) - VOC Regulatory:**

V.O.C.(weight-percent): 0 % weight  
 V.O.C. at 68 °F: 0 kg/m<sup>3</sup> (0 g/L)

**South Coast Air Quality Management District (AQMD) - VOC Regulatory:**

V.O.C.(weight-percent): 0 % weight  
 V.O.C. at 68 °F: 0 kg/m<sup>3</sup> (0 g/L)

**Ozone Transport Commission (OTC) Rules - VOC Regulatory:**

V.O.C.(weight-percent): 0 % weight  
 V.O.C. at 68 °F: 0 kg/m<sup>3</sup> (0 g/L)

**Volatile organic compounds (VOC) according to Canadian Environmental Protection Act, 1999:**

Volatile organic compounds: 0 % weight  
 V.O.C. density at 20 °C: 0 kg/m<sup>3</sup> (0 g/L)

**Volatile organic compounds:**

With regard to Directive 2010/75/EU, this product has the following characteristics:

V.O.C. (Supply): 0 % weight  
 V.O.C. density at 20 °C: 0 kg/m<sup>3</sup> (0 g/L)  
 Average carbon number: Not relevant  
 Average molecular weight: Not relevant

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties:**

For complete information see the product datasheet.

**Appearance:**

Physical state at 68 °F: Liquid  
 Appearance: Not available  
 Color: Not available  
 Odor: Not available  
 Odour threshold: Not applicable (N/A) \*

**Volatility:**

Boiling point at atmospheric pressure: 121 °F / 100 °C  
 Vapour pressure at 68 °F / 20 °C: 2350 Pa  
 Vapour pressure at 122 °F / 50 °C: 12381.01 Pa (12.38 kPa)  
 Evaporation rate at 68 °F / 20 °C: Not applicable (N/A) \*

\*Not relevant due to the nature of the product, not providing information property of its hazards.

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## Solderlene

### SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (continued)

#### Product description:

Density at 68 °F / 20 °C	975.9 kg/m <sup>3</sup>
Relative density at 68 °F / 20 °C	0.976
Dynamic viscosity at 68 °F / 20 °C	Not applicable (N/A) *
Kinematic viscosity at 68 °F / 20 °C	Not applicable (N/A) *
Kinematic viscosity at 104 °F / 40 °C	Not applicable (N/A) *
Concentration:	Not applicable (N/A) *
pH:	Not applicable (N/A) *
Vapour density at 68 °F / 20 °C:	Not applicable (N/A) *
Partition coefficient n-octanol/water 68 °F / 20 °C	Not applicable (N/A) *
Solubility in water at 68 °F / 20 °C:	Not applicable (N/A) *
Solubility properties:	Not applicable (N/A) *
Decomposition temperature:	Not applicable (N/A) *
Melting point/freezing point:	Not applicable (N/A) *

#### Flammability:

Flash Point:	Non Flammable (>199.4 °F / >60°C)
Flammability (solid, gas):	Not applicable (N/A) *
Autoignition temperature:	Not applicable (N/A) *
Lower flammability limit:	Not available
Upper flammability limit:	Not available

#### Particle characteristics:

Median equivalent diameter:	Non-applicable
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#### 9.2 Other information:

##### Information with regard to physical hazard classes:

Explosive properties:	Not applicable (N/A) *
Oxidising properties:	Not applicable (N/A) *
Corrosive to metals:	Not applicable (N/A) *
Heat of combustion:	Not applicable (N/A) *
Aerosols-total percentage (by mass) of flammable components:	Not applicable (N/A) *

##### Other safety characteristics:

Surface tension at 68 °F / 20 °C	Not applicable (N/A) *
Refraction index:	Not applicable (N/A) *

\*Not relevant due to the nature of the product, not providing information property of its hazards.

## Solderlene

### SECTION 10: STABILITY AND REACTIVITY

#### 10.1 Reactivity:

No hazardous reactions are expected because the product is stable under recommended storage conditions. See section 7 from Safety Data Sheet.

#### 10.2 Chemical stability:

Chemically stable under the indicated conditions of storage, handling and use.

#### 10.3 Possibility of hazardous reactions:

Under the specified conditions, hazardous reactions that lead to excessive temperatures or pressure are not expected.

#### 10.4 Conditions to avoid:

Applicable for handling and storage at room temperature:

Shock and friction	Contact with air	Increase in temperature	Sunlight	Humidity
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable

#### 10.5 Incompatible materials:

Acids	Water	Oxidising materials	Combustible materials	Others
Avoid strong acids	Not applicable	Precaution	Not applicable	Avoid alkalis or strong bases

#### 10.6 Hazardous decomposition products:

See subsection 10.3, 10.4 and 10.5 to find out the specific decomposition products. Depending on the decomposition conditions, complex mixtures of chemical substances can be released: carbon dioxide (CO<sub>2</sub>), carbon monoxide and other organic compounds.

### SECTION 11: TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects:

The experimental information related to the toxicological properties of the product itself is not available

#### Dangerous health implications:

In case of exposure that is repetitive, prolonged or at concentrations higher than recommended by the occupational exposure limits, it may result in adverse effects on health depending on the means of exposure:

##### A- Ingestion (acute effect):

- Acute toxicity: The consumption of a considerable dose can cause irritation in the throat, abdominal pain, nausea and vomiting.
- Corrosivity/Irritability: Corrosive product, if it is swallowed causes burns destroying the tissues. For more information about secondary effects from skin contact see section 2.

##### B- Inhalation (acute effect):

- Acute toxicity : Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for inhalation. For more information see section 3.
- Corrosivity/Irritability: Prolonged inhalation of the product is corrosive to mucous membranes and the upper respiratory tract

##### C- Contact with the skin and the eyes (acute effect):

- Contact with the skin: Above all, skin contact may occur as fabrics of all thicknesses can be destroyed, resulting in burns. For more information on the secondary effects see section 2.
- Contact with the eyes: Produces serious eye damage after contact.

##### D- CMR effects (carcinogenicity, mutagenicity and toxicity to reproduction):

- Carcinogenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for the effects mentioned. For more information see section 3.  
IARC: Petrolatum (3)
- Mutagenicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Reproductive toxicity: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

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**Solderlene**

**SECTION 11: TOXICOLOGICAL INFORMATION (continued)**

E- Sensitizing effects:

- Respiratory: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous with sensitising effects. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

F- Specific target organ toxicity (STOT) - single exposure:

Causes irritation in respiratory passages, which is normally reversible and limited to the upper respiratory passages.

G- Specific target organ toxicity (STOT)-repeated exposure:

- Specific target organ toxicity (STOT)-repeated exposure: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.
- Skin: Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

H- Aspiration hazard:

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**Other information:**

Not applicable (N/A)

**Specific toxicology information on the substances: In Accordance With: 29 CFR 1910.1200 / COMMISSION REGULATION (EU) 2020/878 / WHMIS 2015**

Identification	Acute toxicity		Genus
	Route	Value	
ammonium chloride CAS: 12125-02-9	LD50 oral	1410 mg/kg (ATEi)	Rat
	LD50 dermal		
	LC50 inhalation		
zinc chloride CAS: 7646-85-7	LD50 oral	528 mg/kg (ATEi)	Rat
	LD50 dermal		
	LC50 inhalation		

**11.2 Information on other hazards:**

**Endocrine disrupting properties**

Endocrine-disrupting properties: The product fails to meet the criteria.

**Other information**

Non-applicable

**SECTION 12: ECOLOGICAL INFORMATION**

The experimental information related to the eco-toxicological properties of the product itself is not available

Based on available data, the classification criteria are not met, as it does not contain substances classified as hazardous for this effect. For more information see section 3.

**12.1 Ecotoxicity (aquatic and terrestrial, where available):**

**In Accordance With: 29 CFR 1910.1200 / COMMISSION REGULATION (EU) 2020/878 / WHMIS 2015**

**Acute toxicity:**

Identification	Concentration		Species	Genus
	Value	Duration		
zinc chloride CAS: 7646-85-7	LC50	18.18 mg/L (96 h)	Pimephales promelas	Fish
	EC50	0.158 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Not applicable (N/A)		
ammonium chloride CAS: 12125-02-9	LC50	209 mg/L (96 h)	Cyprinus carpio	Fish
	EC50	101 mg/L (48 h)	Daphnia magna	Crustacean
	EC50	Not applicable (N/A)		

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**Solderlene**

**SECTION 12: ECOLOGICAL INFORMATION (continued)**

**12.2 Persistence and degradability:**

Not available

**12.3 Bioaccumulative potential:**

Not available

**12.4 Mobility in soil:**

Not available

**12.5 Results of PBT and vPvB assessment:**

Product does not meet PBT/vPvB criteria

**12.6 Endocrine disrupting properties:**

Endocrine-disrupting properties: The product does not meet the criteria.

**12.7 Other adverse effects:**

Not described

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1 Disposal methods: In Accordance With: 29 CFR 1910.1200**

The next characteristic per RCRA could apply to the unused product if it becomes a waste material: Corrosivity. The next EPA hazardous waste number could apply: D002.

IT IS THE RESPONSIBILITY OF THE WASTE GENERATOR TO EVALUATE WHETHER HIS WASTES ARE HAZARDOUS BY CHARACTERISTICS OR LISTING.

**Waste management (disposal and evaluation):**

Follow RCRA framework and EPA regulation for to ensure that hazardous waste is managed safely and properly. Waste should not be disposed of to drains. Remind, It is the responsibility of the waste generator to evaluate whether his wastes are hazardous by characteristics or listing. See section 6 for further information about Accidental release measures.

**Regulations related to waste management:**

Legislation related to waste management:

40 CFR Solid Wastes - Part 239 through 282.

State regulatory requirements for generators may be more stringent than those in the federal program. Be sure to check the state's policies.

**In Accordance With: COMMISSION REGULATION (EU) 2020/878**

Code	Description	Waste class (Regulation (EU) No 1357/2014)
	It is not possible to assign a specific code, as it depends on the intended use by the user	Hazardous

**Type of waste (Regulation (EU) No 1357/2014):**

HP14 Ecotoxic, HP8 Corrosive

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations in accordance with Annex 1 and Annex 2 (Directive 2008/98/EC). As under 15 01 (2014/955/EC) of the code and in case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-hazardous residue. Waste should not be disposed of to drains. See paragraph 6.2.

**Regulations related to waste management:**

In accordance with Annex II of Regulation (EC) No 1907/2006 (REACH) the community or state provisions related to waste management are stated

Community legislation: Directive 2008/98/EC, 2014/955/EU, Regulation (EU) No 1357/2014

**Solderlene**

**SECTION 13: DISPOSAL CONSIDERATIONS (continued)**

**In Accordance With: WHMIS 2015**

**Waste management (disposal and evaluation):**

Consult the authorized waste service manager on the assessment and disposal operations. In case the container has been in direct contact with the product, it will be processed the same way as the actual product. Otherwise, it will be processed as non-dangerous residue. Waste should not be disposed of to drains. See epigraph 6.2.

**Regulations related to waste management:**

Legislation related to waste management:

Canadian Environmental Protection Act, 1999

**SECTION 14: TRANSPORT INFORMATION**

**Transport of dangerous goods by land:**

With regard to 49 CFR on the Transport of Dangerous Goods AND With regard to ADR 2021 and RID 2021  
 Transportation of Dangerous Goods Regulations including Amendment SOR/2017-100

- 14.1 UN number or ID number:** Not Regulated
- 14.2 UN proper shipping name:** Non-applicable
- 14.3 Transport hazard class(es):** Non-applicable
- Labels: Non-applicable
- 14.4 Packing group:** Non-applicable
- 14.5 Environmental hazards:** Non-applicable
- 14.6 Special precautions for user**
- Special regulations: Non-applicable
- Tunnel restriction code: Non-applicable
- Physico-Chemical properties: see section 9
- Limited quantities: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable

**Transport of dangerous goods by sea:**

With regard to IMDG 40-20:



- 14.1 UN number or ID number:** UN3082
- 14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc chloride)
- 14.3 Transport hazard class(es):** 9
- Labels: 9
- 14.4 Packing group:** III
- 14.5 Marine pollutant:** Yes
- 14.6 Special precautions for user**
- Special regulations: 335, 969, 274
- EmS Codes: F-A, S-F
- Physico-Chemical properties: see section 9
- Limited quantities: 5 L
- Segregation group: Non-applicable
- 14.7 Maritime transport in bulk according to IMO instruments:** Non-applicable



## Solderlene

### SECTION 14: TRANSPORT INFORMATION (continued)

#### Transport of dangerous goods by air:

With regard to IATA/ICAO 2023:



<b>14.1 UN number:</b>	UN3082
<b>14.2 United Nations proper shipping name:</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (zinc chloride)
<b>14.3 Transport hazard class(es):</b>	9
Labels:	9
<b>14.4 Packing group:</b>	III
<b>14.5 Environmental hazard:</b>	Yes
<b>14.6 Special precautions which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside their premises</b>	
Physico-Chemical properties:	see section 9
<b>14.7 Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code):</b>	Non-applicable

### SECTION 15: REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations specific for the product in question:

##### In Accordance With: 29 CFR 1910.1200

- CALIFORNIA LABOR CODE - The Hazardous Substances List: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Birth defects or other reproductive harm: Not applicable (N/A)
- California Proposition 65 (the Safe Drinking Water and Toxic Enforcement Act of 1986) - Cancer: Not applicable (N/A)
- CANADA-Domestic Substances List (DSL): *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- CANADA-Non-Domestic Substances List (NDSL): Not applicable (N/A)
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) - Reportable Quantities: *zinc chloride (7646-85-7)* - 1000 lb; *ammonium chloride (12125-02-9)* - 5000 lb
- Hazardous Air Pollutants (Clean Air Act): Not applicable (N/A)
- Massachusetts RTK - Substance List: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- Minnesota - Hazardous substances ERTK: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- New Jersey Worker and Community Right-to-Know Act: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- New York RTK - Substance list: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- NTP (National Toxicology Program): Not applicable (N/A)
- OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096): Not applicable (N/A)
- Pennsylvania Worker and Community Right-to-Know Law: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- Protective Action Criteria (PAC) with AEGLs, ERPGs, & TEELs: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- Rhode Island - Hazardous substances RTK: *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- The Toxic Substances Control Act (TSCA) : *zinc chloride (7646-85-7)*; *ammonium chloride (12125-02-9)*
- Toxic chemical release reporting under EPCRA section 313 (40 CFR Part 372): *zinc chloride (7646-85-7)*

##### Specific provisions in terms of protecting people or the environment:

It is recommended to use the information provided in this safety data sheet as a foundation for conducting workplace-specific risk assessments. These assessments will help establish the appropriate risk prevention measures for handling, using, storing, and disposing of this product.

##### Other legislation:

Take into consideration other applicable federal, state, and local laws and local regulations.

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**Solderlene**

**SECTION 15: REGULATORY INFORMATION (continued)**

**Safety, health and environmental regulations/legislation specific for the substance or mixture:  
 In Accordance With: COMMISSION REGULATION (EU) 2020/878**

- Article 95, REGULATION (EU) No 528/2012: Not relevant
- Candidate substances for authorisation under the Regulation (EC) No 1907/2006 (REACH): Not relevant
- Regulation (EU) No 2024/590, about substances that deplete the ozone layer: Not relevant
- REGULATION (EU) No 649/2012, in relation to the import and export of hazardous chemical products: Not relevant
- Substances included in Annex XIV of REACH ("Authorisation List") and sunset date: Not relevant

**Seveso III:**

Section	Description	Lower-tier requirements	Upper-tier requirements
E2	ENVIRONMENTAL HAZARDS	200	500

**Limitations to commercialisation and the use of certain dangerous substances and mixtures (Annex XVII REACH, etc ....):**

Shall not be used in:

- ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
- tricks and jokes,
- games for one or more participants, or any article intended to be used as such, even with ornamental aspects.

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as a basis for conducting workplace-specific risk assessments in order to establish the necessary risk prevention measures for the handling, use, storage and disposal of this product.

**Other legislation:**

The product could be affected by sectorial legislation

**Safety, health and environmental regulations specific for the product in question:**

**In Accordance With: WHMIS 2015**

- Domestic Substances List (DSL): *zinc chloride (7646-85-7); ammonium chloride (12125-02-9)*
- Non-Domestic Substances List (NDSL): Non-applicable

**Specific provisions in terms of protecting people or the environment:**

It is recommended to use the information included in this safety data sheet as data used in a risk evaluation of the local circumstances in order to establish the necessary risk prevention measures for the manipulation, use, storage and disposal of this product.

**Other legislation:**

Canadian Environmental Protection Act, 1999

**SECTION 16: OTHER INFORMATION**

**Legislation related to safety data sheets:**

This safety data sheet has been designed in accordance with Appendix d to §1910.1200 - Safety data sheets

The SDS shall be supplied in an official language of the country where the product is placed on the market. This safety data sheet has been designed in accordance with ANNEX II-Guide to the compilation of safety data sheets of Regulation (EC) No 1907/2006 (COMMISSION REGULATION (EU) 2020/878).

This safety data sheet has been designed in accordance with Part 4 and Schedule I of the Hazardous Products Regulations (SOR/2015-17)

**Modifications related to the previous Safety Data Sheet which concerns the ways of managing risks:**

Non-applicable

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**Solderlene****SECTION 16: OTHER INFORMATION (continued)****Texts of the legislative phrases mentioned in section 2:**

H318: Causes serious eye damage.  
H335: May cause respiratory irritation.  
H302: Harmful if swallowed.  
H314: Causes severe skin burns and eye damage.  
H411: Toxic to aquatic life with long lasting effects.  
H350: May cause cancer.

**Texts of the legislative phrases mentioned in section 3:**

The phrases indicated do not refer to the product itself; they are present merely for informative purposes and refer to the individual components which appear in section 3

**In Accordance With: 29 CFR 1910.1200 / WHMIS 2015:**

Acute Tox. 4: H302 - Harmful if swallowed.  
Eye Irrit. 2A: H319 - Causes serious eye irritation.  
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.

**In Accordance With: CLP Regulation (EC) No 1272/2008:**

Acute Tox. 4: H302 - Harmful if swallowed.  
Aquatic Acute 1: H400 - Very toxic to aquatic life.  
Aquatic Chronic 1: H410 - Very toxic to aquatic life with long lasting effects.  
Eye Irrit. 2: H319 - Causes serious eye irritation.  
Skin Corr. 1B: H314 - Causes severe skin burns and eye damage.

**Classification procedure:**

Eye Dam. 1: Calculation method  
Aquatic Chronic 2: Calculation method  
STOT SE 3: Calculation method  
Acute Tox. 4: Calculation method  
Skin Corr. 1B: Calculation method

**Advice related to training:**

Training is recommended in order to prevent industrial risks for staff using this product and to facilitate their comprehension and interpretation of this safety data sheet, as well as the label on the product.

**Principal bibliographical sources:**

Occupational Safety & Health Administration (OSHA).  
<http://echa.europa.eu>  
<http://eur-lex.europa.eu>  
<http://whmis.org/>

**Abbreviations and acronyms:**

ADR: European agreement concerning the international carriage of dangerous goods by road  
IMDG: International maritime dangerous goods code  
IATA: International Air Transport Association  
ICAO: International Civil Aviation Organisation  
COD: Chemical Oxygen Demand  
BOD5: 5-day biochemical oxygen demand  
BCF: Bioconcentration factor  
LD50: Lethal Dose 50  
CL50/LC50: Lethal Concentration 50  
EC50: Effective concentration 50  
Log-POW: Octanol-water partition coefficient  
Koc: Partition coefficient of organic carbon  
UFI: unique formula identifier  
IARC: International Agency for Research on Cancer  
Date of compilation: 5/11/2023

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END OF SAFETY DATA SHEET