



## Section 1: Identification of the Substance/Mixture and of the Company Undertaking

### 1.1 Product identifier

**Product Name:** Series 100, 200, 300, 500, R, RMA, RA, NC, NCLR, Leaded Rosin Based Solder Paste  
**Synonym:** Solder Paste, Solder Cream, SolderPlus®, PrintPlus®

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

**Product Restrictions:** Solder paste

### 1.3 Supplier's details

**Manufacturer Name:** Nordson EFD LLC  
**Manufacturer Address 1:** 40 Catamore Boulevard  
**Manufacturer City:** East Providence  
**Manufacturer State:** Rhode Island  
**Manufacturer Zip Code:** 02914  
**Manufacturer Country:** USA  
**Business Phone:** +1-401-431-7000  
**Other Phone:** ChemTel: Outside of the US, Canada, Puerto Rico and the U.S. Virgin Islands:  
+01-813-248-0585  
China: 400-120-0751  
Brazil: 0-800-591-6042  
India: 000-800-100-4086  
Mexico: 01-800-099-0731

**Distributor:** EFD International  
**Distributor Address 1:** Unit 14, Apex Business Centre Boscombe Road  
**Distributor City:** Dunstable, Bedfordshire  
**Distributor State:** LU5 4SB England  
**Distributor Web:** efdproductcompliance@nordsonefd.com

### 1.4 Emergency phone number

**Emergency Phone:** ChemTel Contract# MIS1138399  
United States, Canada, Puerto Rico, and the U.S. Virgin Islands free phone number:  
1-800-255-3924

**Revision Date:** 2018-06-07 16:21:33

**Notes from Section 1:** Conforms to Regulation (EC) No. 1907/2006 (REACH)

## Section 2: Hazards Identification

### 2.1 Classification of the substance or mixture

#### 2.1.1. Classification according to Regulation (EC) No 1272/2008 [CLP]

**GHS Class Phrases:** Specific Target Organ Toxicity -STOT Repeated exposure RE. category 1 (Central and peripheral nervous systems, the kidneys, and the blood system. ).  
Carcinogenicity. Category 2.  
Reproductive toxicity. Category 1B.  
Germ cell mutagenicity. Category 2.  
Eye Irritation. Category 2.  
Hazardous to the aquatic environment, short term, acute. category 1.  
Hazardous to the aquatic environment, long-term, chronic. Category 2.

### 2.2 Label elements:



**Signal Words:** DANGER.

**Hazard Statements:** H372 - Causes damage to organs through prolonged or repeated exposure.  
H351 - Suspected of causing cancer.  
H360 - May damage fertility or the unborn child.  
H341 - Suspected of causing genetic defects.  
H319 - Causes serious eye irritation.  
H400 - Very toxic to aquatic life.  
H411 - Toxic to aquatic life with long lasting effects.

**Precautionary Statements:** P201 - Obtain special instructions before use.  
P202 - Do not handle until all safety precautions have been read and understood.  
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 - Wash hands thoroughly after handling.  
P270 - Do not eat, drink or smoke when using this product.  
P273 - Avoid release to the environment.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P338 - P305+P351+IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P313 - P308+IF exposed or concerned: Get medical advice/attention.  
P314 - Get medical advice/attention if you feel unwell.  
P313 - P337+If eye irritation persists: Get medical advice/attention.  
P391 - Collect spillage.  
P405 - Store locked up.  
P501 - Dispose of contents/container in accordance with Local, State, Federal and Provincial regulations.

### 2.3 Other hazards

**Other Potential Health Effects:** Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin.

## Section 3: Composition/Information on Ingredients

### 3.2 Mixtures:

Ingredient Name		CAS Number	Ingredient Percent	EC Number	Comments						
Tin		7440-31-5	15 - 60								
Silver		7440-22-4	0 - 5								
H400	H410	Hazardous to the aquatic environment, short term, acute, category 1		Hazardous to the aquatic environment, long-term, chronic, category 1							
Lead		7439-92-1	5 - 80								
H341	H351	H360	H372	H400	H410	Germ cell mutagenicity, category 2	Carcinogenicity, category 2	Reproductive toxicity, category 1A	Specific Target Organ Toxicity - STOT Repeated exposure RE, category 1	Hazardous to the aquatic environment, short term, acute, category 1	Hazardous to the aquatic environment, long-term, chronic, category 1
alpha-Terpineol		98-55-5	1.0-10.0								
H315	H319	Skin Irritation, category 2		Eye Irritation, category 2A							
Tridecyl alcohol		68526-86-3	0.0-10.0								
H400	H410	Hazardous to the aquatic environment, short term, acute, category 1		Hazardous to the aquatic environment, long-term, chronic, category 1							
Malonic acid		141-82-2	<1								
H302	H319	Acute Oral Toxicity, category 4		Eye Irritation, category 2A							
Non-hazardous		No data	0 - 20								

**Non-hazardous:**

**Notes from Section 3:**

	Alloy%	Tin%	Lead%	Silver%	Copper%	Antimony%	Bismuth%
Pb	92.5	5	92.5	2.5	-	-	-
Sn	10	10	88	2	-	-	-
Sn	43	43	43	-	-	-	14
Sn	5	5	95	-	-	-	-
Sn	60	60	40	-	-	-	-
Sn	62	62	36	2	-	-	-
Sn	63	63	37	-	-	-	-

**Section 4: First Aid Measures**

**4.1 Description of first aid measures**

- Eye Contact:** Immediately flush eyes with plenty of water for 15 to 20 minutes. Get medical attention, if irritation or symptoms of overexposure persists.
- Skin Contact:** Immediately wash skin with soap and plenty of water. Get medical attention if irritation develops or persists.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Seek immediate medical attention.
- Ingestion:** If swallowed, do NOT induce vomiting. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person.

**4.2 Most important symptoms and effects, both acute and delayed**

**Other First Aid:**

Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin.

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

**Note To Physicians:** Provide general supportive measures and treat symptomatically.

### Section 5: Firefighting Measures

#### 5.1 Extinguishing media

**Extinguishing Media:** Use alcohol resistant foam, carbon dioxide, dry chemical, or water fog or spray when fighting fires involving this material.

#### 5.2 Special hazards arising from the substance or mixture

**Hazardous Combustion Byproducts:** May form carbon monoxide, carbon dioxide or other toxic fumes. At high temperatures, metallic vapors may be liberated.

**Unusual Fire Hazards:** Flux in solder may burn if soldering is done with a flame

**Sensitivity To Impact:** Do not use a solid water stream as it may scatter and spread fire.

#### 5.3 Advice for firefighters

**Protective Equipment:** As in any fire, wear Self-Contained Breathing Apparatus (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA Fire:** 1

**NFPA Health:** 2

**NFPA Reactivity:** 0

### Section 6: Accidental Release Measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Personnel Precautions:** Evacuate area and keep unnecessary and unprotected personnel from entering the spill area. Avoid inhaling vapors, mists, or fumes. Avoid contact with skin, eyes and clothing.

#### 6.2 Environmental precautions

**Environmental Precautions:** Avoid runoff into storm sewers, ditches, and waterways.

#### 6.3 Methods and materials for containment and cleaning up

**Methods for Containment:** Melted solder will solidify on cooling and can be scraped up.

**Methods for Cleanup:** Solidified solder can be scraped up upon cooling., Use caution to avoid breathing fumes if a gas torch is used to cut up large pieces.

#### 6.4 Reference to other sections

**Other Spill Precautions:** Refer to Section 8 for information on personal protection equipment.

### Section 7: Handling and Storage

#### 7.1 Precautions for safe handling

**Handling:** Use with adequate ventilation. Avoid breathing vapor and fumes. Use only in accordance with directions.

**Special Handling:** Do not use in areas without adequate ventilation.

**Hygiene Practices:** Avoid inhaling vapors, mists, or fumes.,Wash thoroughly after handling.

## 7.2 Conditions for safe storage, including any incompatibilities

**Storage:** Store between 4° and 10°C (40° and 50°F). Keep container closed. Do not store with foodstuffs

## 7.3 Specific end use(s)

# Section 8: Exposure Controls/Personal Protection

## 8.1 Control parameters

### Exposure Guidelines - Ingredient Based:

#### Tin:

USA - OSHA:	PEL-TWA: 0.1 mg/m3
Australia - TLV:	8 Hours: 0.1 mg/m3
Belgium - TLV:	8 hours: 0.1 mg/m3
Ireland - TLV:	8 hours: 0.1 mg/m3
Germany - TLV:	8 hours: 0.1 mg/m3 (Inhalable aerosol)
New Zealand - TLV:	8 hours: 0.1 mg/m3
Spain - TLV:	8 hours: 0.1 mg/m3
Sweden - TLV:	8 hours: 0.1 mg/m3
Switzerland - TLV:	8 hours: 0.1 mg/m3 (Inhalable aerosol)
USA - NIOSH - TLV:	8 hours: 0.1 mg/m3

#### Silver:

USA - OSHA:	PEL-TWA: 0.01 mg/m3
Denmark:	8 hours: 0.01 mg/m3
France - TLV:	8 hours: 0.1 mg/m3
Germany - TLV:	8 hours: 0.01 mg/m3 (inhalable aerosol)
Ireland - TLV:	8 hours: 0.1 mg/m3
Italy - TLV:	8 hours: 0.1 mg/m3
Poland - TLV:	8 hours: 0.05 mg/m3
Spain - TLV:	8 hours: 0.01 mg/m3
Sweden - TLV:	8 hours: 0.1 mg/m3

Switzerland - TLV: 8 hours: 0.01 mg/m<sup>3</sup> (Inhalable aerosol)

United Kingdom - TLV: 8 hours: 0.1 mg/m<sup>3</sup>

**Lead:**

ACGIH: TLV-TWA: 0.05 mg/m<sup>3</sup>

USA - OSHA: PEL-TWA: 0.05 mg/m<sup>3</sup>

Germany - TLV: 8 hours: 0.15 mg/m<sup>3</sup> (Inhalable aerosol)

Belgium: 8 Hours: 0.15 mg/m<sup>3</sup>

**alpha-Terpineol:**

Austria - TLV: None

Belgium - TLV: None

Germany - TLV: None

Ireland - TLV: None

New Zealand - TLV: None

Spain - TLV: None

Switzerland - TLV: None

USA - OSHA - TLV: None

**Tridecyl alcohol:**

Germany - TLV: None

Switzerland - TLV: None

Spain - TLV: None

Austria - TLV: None

Belgium - TLV: None

Ireland - TLV: None

New Zealand - TLV: None

USA - OSHA - TLV: None

**8.2 Exposure controls**

**Engineering Controls:**

Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.

**Eye Protection:**

Safety glasses with side-shields.

**Hand Protection:**

Wear appropriate protective gloves. Consult glove manufacturer's data for permeability data.

**Respiratory Protection:** When ventilation is not sufficient to remove fumes from the breathing zone, a safety approved respirator or self- contained breathing apparatus should be worn.

**Hygiene Practices:** Avoid inhaling vapors, mists, or fumes.,Wash thoroughly after handling.

## Section 9: Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

#### Physical and chemical properties

<b>Color:</b>	Grey
<b>Odor:</b>	Mild.
<b>pH:</b>	Not determined.
<b>Melting Temperature:</b>	> 100 °C (> 212 °F)
<b>Boiling Temperature:</b>	124-198°C (255 - 388 deg F)
<b>Flash Point:</b>	> 76 °C (>169 °F)
<b>Ignition Temperature:</b>	Not determined.
<b>Lower Flammable Limit:</b>	Not determined.
<b>Upper Flammable Limit:</b>	Not determined.
<b>Vapor Pressure:</b>	Not determined.
<b>Vapor Density:</b>	Not determined.
<b>Density:</b>	>4 g/cm <sup>3</sup> (@ 20 °C (68 °F))
<b>Solubility:</b>	Insoluble
<b>Evaporation Rate:</b>	Not determined.
<b>Partition Coefficient:</b>	Not determined.
<b>Percent Volatile:</b>	Not determined.
<b>VOC Content:</b>	Not determined.
<b>Viscosity:</b>	400-1000kcPs

### 9.2 Other information

<b>Notes Caption from Section 9:</b>	Expansion Ratio
<b>Expansion Ratio:</b>	None.

## Section 10: Stability and Reactivity

### 10.1 Reactivity

**Reactivity:** Not applicable.

### 10.2 Chemical Stability

**Chemical Stability:** Stable under normal temperatures and pressures.

### 10.3 Possibility of hazardous reactions

**Hazardous Polymerization:** Not reported.

## 10.4 Conditions To Avoid

**Conditions To Avoid:** High temperatures, high humidity

## 10.5 Incompatible Materials

**Incompatible Materials:** May react with concentrated acids. Silver is incompatible with hydrogen peroxide and reacts with diluted nitric acid and concentrated sulfuric acid

# Section 11: Toxicological Information

## 11.1 Information on toxicological effects

### Malonic acid:

**Ingestion Toxicity:** LD50 Oral rat: 1310 mg/kg  
(Source: NLM\_CIP)

### Silver:

**Ingestion Toxicity:** Oral - Rat LD50 - male - Lethal Dose, 50 percent kill: >5,000 mg/kg

### Tin:

**Ingestion Toxicity:** LD50 Oral Rat: 700 mg/kg  
Source: NZ\_CCID)

### alpha-Terpineol:

**Ingestion Toxicity:** Oral - Rat LD50 - Lethal dose, 50 percent kill: 3.2 gm/kg [Details of toxic effects not reported other than lethal dose value] (RTECS)

### Salicylic acid:

**Skin Toxicity:** LD50 Dermal Rat: >2g/kg  
(Source: HSDB)

**Ingestion Toxicity:** LD50 Oral Rat: 891 mg/kg  
(Source: NLM\_CIP)

**Inhalation Toxicity:** LC50 Inhalation Rat: >900 mg/m<sup>3</sup> (1h)  
Source: (NLM\_CIP)

### Tridecyl alcohol:

**Ingestion Toxicity:** Oral - Rat LD50 - Lethal dose, 50 percent kill: >2000 mg/kg [Behavioral - Sleep Lungs, Thorax, or Respiration - Dyspnea Gastrointestinal - Hypermotility, diarrhea] Oral - Rat LD50 - Lethal dose, 50 percent kill: >2000 mg/kg [Behavioral - Somnolence (general depressed activity) Lungs, Thorax, or Respiration - Dyspnea Gastrointestinal - Hypermotility, diarrhea] (RTECS)

### Glycerol monooleate:

**Eye Toxicity:** Administration into the eye - Rabbit Standard Draize test: 100 mg [Mild] (RTECS)

**Potential Health Effects:** Exposures to soldering fumes and vapors may be irritating to eyes, respiratory system, and skin.

**Route of Exposure:** Eyes. Skin. Inhalation. Ingestion.



## Section 12: Ecological Information

### 12.1 Ecotoxicity

Ecotoxicity:	Toxic to aquatic life with long lasting effects.
Effect of Material On Plant/Animal:	In high concentrations, this product may be dangerous to plants and animals.

### 12.2 Persistence and degradability

Biodegradation:	Flux is biodegradable.
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### 12.3 Bioaccumulative potential

BioAccumulation:	Not determined.
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### 12.4 Mobility in soil

Mobility In Environmental Media:	Not determined.
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## Section 13: Disposal Considerations

### 13.1 Waste treatment methods

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines.
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## Section 14: Transport Information

DOT Shipping Name:	Not Regulated.
DOT UN Number:	Not Regulated.
IMDG Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, n.o.s (lead)
IMDG UN Number:	UN 3077
IATA Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, n.o.s (lead)
IATA UN Number:	UN 3077
RID/ADR Shipping Name:	Not Regulated.
RID/ADR UN Number:	Not Regulated.

## Section 15: Regulatory Information

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

#### Regulatory - Ingredient Based:

##### Tin:

Canada DSL

Listed

TSCA Inventory Status	Listed	:
EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:
WGK: Annex 1	1443, not considered hazardous to water	:

**Silver:**

Canada DSL	Listed	:
TSCA Inventory Status	Listed	:
Section 313	EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.	:
EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:
WGK: Annex 1	1443, not considered hazardous to water	:

**Lead:**

Canada DSL	Listed	:
TSCA Inventory Status	Listed	:
Section 313	EPCRA - 40 CFR Part 372 - (SARA Title III) Section 313 Listed Chemical.	:
EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:
WGK: Annex 1	1443, not considered hazardous to water	:

**alpha-Terpineol:**

Canada DSL	Listed	:
TSCA Inventory Status	Listed	:
EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:

**Tridecyl alcohol:**

Canada DSL	Listed	:
TSCA Inventory Status	Listed	:
EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:

**Malonic acid:**

EINECS (European Inventory of Existing Commercial Chemical Substances)	Listed	:
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TSCA 8(b): Inventory Status Listed :

Canada DSL Listed :

## 15.2 Chemical Safety Assessment

### Section 16: Additional Information

**Revision Date:** 2018-06-07 16:21:33

**Disclaimer:** The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. Additionally, Nordson EFD LLC assumes no responsibility for injury to the end user proximately caused by the material even if reasonable safety procedures are followed. The end user assumes the risk in his use of this material.

**HMIS:**

<b>Health</b>	<b>2</b>
<b>Flammability</b>	<b>1</b>
<b>Reactivity</b>	<b>0</b>
<b>PPE</b>	<b>X</b>

Chronic Health Hazard