Safety Data Sheet

Issue date 06-Aug-2018 **Revision date** 06-Aug-2018 **Revision Number** 1

1. IDENTIFICATION

Product identification

Product identifier	Certanium® 934 Solder Flux Gel
Other means of identification	P16500
Recommended use	Flux
Restrictions on use	For industrial use only

Supplier

Corporate Headquarters:
Cronatron, A Lawson Brand
Lawson Products, Inc.
8770 W.Bryn Mawr Ave.- Suite 900
Chicago, IL 60631
1-866-529-7664

Canadian Distribution Center:
Lawson Canada
7315 Rapistan Court
Mississauga, ON L5N 5Z4
(800) 323-5922

24 Hour Emergency Phone Number (888) 426-4851 (Prosar)

2. HAZARD(S) IDENTIFICATION

Hazard Classification This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Oral	Category 4
Skin corrosion/irritation	Category 1B
Serious eye damage/eye irritation	Category 1
Hazardous to the aquatic environment	Category 1
Hazardous to the aquatic environment, long-term hazard	Category 1

Symbol

Signal word DANGER

Hazard statements
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements

General

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.

Prevention

P264 - Wash skin thoroughly after handling
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing and eye/face protection

Response

General

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.

Eyes

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 or doctor/physician

Skin

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P363 - Wash contaminated clothing before reuse

Inhalation

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician

Ingestion

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Spill

P391 - Collect spillage

Storage

P405 - Store locked up

Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

Hazard(s) Not Otherwise Classified (HNOC)

None known.

Physical Hazards Not Otherwise Classified (PHNOC)

None known.

Unknown acute toxicity

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

Composition

Mixture.

Chemical name	CAS-No	Weight %
Zinc chloride	7646-85-7	25-40
Ammonium chloride	12125-02-9	5-10
Hydrochloric Acid	7647-01-0	2-8

4. FIRST-AID MEASURES

Necessary first-aid measures

General Information	Show this safety data sheet to the doctor in attendance. Call a POISON CENTER or doctor/physician. Move out of dangerous area.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Consult a physician.
Ingestion	Rinse mouth with water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Consult a physician.
Skin contact	Wash area thoroughly with soap and water. Consult a physician.
Eye contact	Flush for 15 minutes or until irritation subsides. Get medical attention immediately. Continue rinsing eyes during transport to hospital.
Most important symptoms (acute)	Not available.
Most important symptoms (over-exposure)	Not available.
Indication of any immediate medical attention and special treatment needed	Not available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Dry chemical. Foam. Carbon dioxide (CO2).
Unsuitable extinguishing media	Not available.
Specific hazards	Hydrogen chloride.
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.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	Use personal protection recommended in Section 8. Avoid breathing dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up	Neutralize spill with soda ash and dilute with plenty of water. Dispose of all product, residues and clean-up materials in accordance with local, state, and federal regulations.

7. HANDLING AND STORAGE

Precautions for safe handling	Avoid contact with skin, eyes and clothing.
Conditions for safe	Keep containers tightly closed in a cool, well-ventilated place. Store away from heat. Store

storage, including any incompatibilities in a cool, dry, and well-ventilated place. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Chemical name	OSHA PEL (TWA)	ACGIH OEL (TWA)	NIOSH - TWA
Zinc chloride	1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA
Ammonium chloride	-	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA
Hydrochloric Acid	5 ppm Ceiling 7 mg/m³ Ceiling	2 ppm Ceiling	-

Appropriate engineering controls Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures, such as personal protective equipment

Eye protection Tightly fitting safety goggles.

Skin and body protection Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear protective nitrile rubber gloves. Wash contaminated clothing before reuse. 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.

Respiratory protection Use a properly fitted, air-purifying or supplied air respirator complying with a approved standard if a risk assessment indicates this is necessary.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Canadian Province Occupational Exposure Limits

Chemical name	Alberta OEL	British Columbia OEL	Manitoba OEL	New Brunswick - OEL	Newfoundland & Labrador - OEL	Nova Scotia - OEL	Ontario OEL	Prince Edward Island - OEL	Quebec OEL	Saskatchewan - OEL
Zinc chloride	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	1 mg/m³ TWA 2 mg/m³ STEL	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	2 mg/m³ STEL 1 mg/m³ TWA	1 mg/m³ TWAEV	2 mg/m³ STEL 1 mg/m³ TWA
Ammonium chloride	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA	10 mg/m³ TWA 20 mg/m³ STEL	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEL 10 mg/m³ TWA	20 mg/m³ STEV 10 mg/m³ TWAEV	20 mg/m³ STEL 10 mg/m³ TWA
Hydrochloric Acid	2 ppm Ceiling 3 mg/m³ Ceiling	2 ppm Ceiling	2 ppm Ceiling	5 ppm Ceiling 7.5 mg/m³ Ceiling	2 ppm Ceiling	2 ppm Ceiling	2 ppm Ceiling	2 ppm Ceiling	5 ppm Ceiling 7.5 mg/m³ Ceiling	2 ppm Ceiling

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state Liquid

Color	Light green, Yellow
Odor	None
Odor threshold	Not applicable
pH	0-1 @ 20-25 DEGREES CELSIUS
Melting point/range °C	0 °C
Melting point/range °F	32 °F
Boiling point/range °C	104 °C
Boiling point/range °F	220 °F
Flash point °C / °F	Not available
Evaporation rate	0.6
Flammability (Solid, Gas)	Not available
Lower explosion limit	Not available
Upper explosion limit	Not available
Vapor pressure	Not available
Vapor density	Not available
Relative density	1.3
Solubility	completely soluble in water
Partition coefficient (n-octanol/water)	Not available
Autoignition temperature °C	Not available
Autoignition temperature °F	Not available
Decomposition temperature °C	Not available
Decomposition temperature °F	Not available
Viscosity	Not available

10. STABILITY AND REACTIVITY

Reactivity	Not available.
Chemical stability	Stable.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Metals.
Incompatible materials	Alkaline materials. Oxidizing agents. Strong reducing agents. Cyanides. Do not store near combustible materials.

Hazardous decomposition products Hydrogen chloride. Zinc Chloride fumes. Zinc oxide. ammonium.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure Dermal. Inhalation. Ingestion. Eyes.

Symptoms Not available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure Not available.

Numerical measures of toxicity

Chemical name	Inhalation LC50:	Dermal LD50:	Oral LD50:
Zinc chloride	-	-	= 1100 mg/kg (Rat)
Ammonium chloride	-	-	= 1650 mg/kg (Rat)
Hydrochloric Acid	= 1.68 mg/L (Rat) 1 h	> 5010 mg/kg (Rabbit)	238 - 277 mg/kg (Rat)

ATEmix (dermal) Not available

ATEmix (oral) Not available

ATEmix (inhalation-gas) Not available

ATEmix (inhalation-vapor) Not available

ATEmix (inhalation-dust/mist) Not available

Carcinogenicity

Chemical name	ACGIH OEL - Carcinogens	IARC	OSHA RTK Carcinogens	NTP
Zinc chloride	-	-	-	-
Ammonium chloride	-	-	-	-
Hydrochloric Acid	A4	Group 1 Group 3	Listed	-

Canadian Province carcinogenicity limits

Chemical name	Alberta - Carcinogen	British Columbia - Carcinogen	Manitoba - Carcinogen	New Brunswick - Carcinogen	Nova Scotia - Carcinogen	Quebec - Carcinogen
Zinc chloride	-	-	-	-	-	-
Ammonium chloride	-	-	-	-	-	-
Hydrochloric Acid	-	-	ACGIH A4	-	ACGIH A4	-

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical name	Algae/aquatic plants	Fish
Zinc chloride	-	-
Ammonium chloride	-	209: 96 h Cyprinus carpio mg/L LC50 static 725: 24 h Lepomis macrochirus mg/L LC50
Hydrochloric Acid	-	282: 96 h Gambusia affinis mg/L LC50 static

Persistence and degradability Not available.

Bioaccumulation

Chemical name	CAS-No	Partition coefficient (log Kow)
Zinc chloride 7646-85-7	7646-85-7	-
Ammonium chloride 12125-02-9	12125-02-9	-
Hydrochloric Acid 7647-01-0	7647-01-0	-

Mobility in soil Not available.

Other adverse effects Not available

13. DISPOSAL CONSIDERATIONS

Disposal information Discard container or liner in accordance with federal, state, and local regulations.

Contaminated packaging Dispose in accordance with local, state and federal regulations.

14. TRANSPORTATION INFORMATION

Shipping Descriptions

DOT

ID-No UN3264
Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (contains zinc chloride, hydrochloric acid)
Hazard Class(es) 8
Packing group III
Special Provisions LTD QTY

TDG

ID-No UN3264
Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (contains zinc chloride, hydrochloric acid)
Hazard Class(es) 8
Packing group III
Special Provisions LTD QTY

IATA

ID-No UN3264
Proper shipping name Corrosive liquid, acidic, inorganic, n.o.s. (contains zinc chloride, hydrochloric acid)
Hazard Class(es) 8
Packing group III
Special Provisions LTD QTY

IMDG/IMO

ID-No	UN3264
Proper shipping name	Corrosive liquid, acidic, inorganic, n.o.s. (contains zinc chloride, hydrochloric acid)
Hazard Class(es)	8
Packing group	III
EmS No	F-A, S-B
Marine pollutant	Yes
Special Provisions	LTD QTY

Marine Pollutants

Chemical name	CAS-No	USDOT Marine Pollutant	Canada TDG Marine Pollutant	IMDG Marine Pollutant
Zinc chloride	7646-85-7	X	-	X
Ammonium chloride	12125-02-9	-	-	-
Hydrochloric Acid	7647-01-0	-	-	-

Special Precautions

Multi-modal shipping descriptions are provided for informational purposes and do not consider container size. The presence of a shipping description for a particular mode of transport (sea, air, etc.), does not indicate that the product is packaged suitably for that mode of transport. All packaging must be reviewed for suitability prior to shipment, and compliance with the applicable regulations is the sole responsibility of the person offering the product for transport. People loading and unloading dangerous goods must be trained on all of the risks deriving from the substances and on all actions in case of emergency situations.

15. REGULATORY INFORMATION

State regulations

U.S. state Right-to-Know regulations

Chemical name	CAS-No	Massachusetts - RTK	New Jersey - RTK	Pennsylvania - RTK
Zinc chloride	7646-85-7	X	X	X
Ammonium chloride	12125-02-9	X	X	X
Hydrochloric Acid	7647-01-0	X	X	X

California Prop. 65

Chemical name	CAS-No	California Prop. 65
Zinc chloride	7646-85-7	-
Ammonium chloride	12125-02-9	-
Hydrochloric Acid	7647-01-0	-

California Proposition 65 This product does not contain any Proposition 65 chemicals

U.S. Federal Regulations

US EPA SARA 313

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
Zinc chloride	7646-85-7	1000 lb	1.0 %

Chemical name	CAS-No	CERCLA/SARA Hazardous Substances RQ	SARA 313 - Threshold Values
		454 kg	
Ammonium chloride	12125-02-9	5000 lb 2270 kg	1.0 %
Hydrochloric Acid	7647-01-0	5000 lb 2270 kg	1.0 %

US EPA SARA 311/312 hazardous categorization
Acute Health Hazard
Chronic Health Hazard

International inventories
All components of this product are listed on the following inventories: U.S.A. (TSCA 8(b)), Canada (DSL/NDSL) or are exempt.

Chemical name	DSL/NDSL	Inventory - United States - Section 8(b) Inventory (TSCA)	U.S. - TSCA (Toxic Substances Control Act) - Section 12(b) - Export Notification
Zinc chloride	X	X	-
Ammonium chloride	X	X	-
Hydrochloric Acid	X	X	-

Legend X - Listed

16. OTHER INFORMATION

NFPA

Health Not available
Flammability Not available
Instability Not available

HMIS

Health Not available
Flammability Not available
Physical hazards Not available

Notice: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA).

Prepared by Regulatory Affairs

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Revision note

Key to abbreviations

ACGIH (American Conference of Governmental Industrial Hygienists)
ATE (Average Toxicity Estimate)
DSL/NDSL (Domestic Substance List/Non-Domestic Substance List)
HMIS (Hazardous Materials Identification System)
IARC (International Agency for Research on Cancer)
IATA (International Air Transport Association)

IMDG/IMO (International Maritime Dangerous Goods/International Maritime Orgnaization)
NFPA (National Fire Protection Association)
NTP (National Toxicology Program)
OEL (Occupational Exposure Level)
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
PEL (Permissible Exposure Limit)
TSCA (Toxic Substance Control Act)
USEPA (United States Environmental Protection Agency)

Disclaimer

The information accumulated herein is believed to be accurate, but is not warranted to be, whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances.

End of Safety Data Sheet