

Handy Flo 710/711/712 and DF 710/711/712

Safety Data Sheet

1. Product and Company Identification

Manufacturer

Lucas-Milhaupt, Inc.
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Emergency Phone Number

Chemtrec: 800-424-9300

SDS Number: 330

Product Codes: 83-710 (Handy Flo 710), 83-711 (Handy Flo 711), 83-712 (Handy Flo 710 Chrysler Only), 84-194 (X5415 Flux Binder)

Product Use(s): Flux binder for metal joining

2. Hazards Identification

Classification(s)

Flammable Liquid: Hazard Category 4
Eye Damage/Irritation: Hazard Category 2A
Skin Corrosion/Irritation: Hazard Category 2

Label Symbol(s): Exclamation point

Label Signal Word(s): Warning

Label Hazard Statement(s)

Combustible liquid.
Causes skin and serious eye irritation.

Label Precautionary Statement(s)

Keep away from flames and hot surfaces. No smoking.
In case of fire, use dry chemical, foam, or carbon dioxide to extinguish.
Wear protective gloves and eye/face protection.
Wash hands thoroughly after handling.
Do not eat, drink, or smoke when using this product.

IF IN EYES: Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if easy to do. Continue rinsing. If eye irritation persists, get medical advice/attention.

IF ON SKIN: Wash with plenty of water. If irritation occurs, get medical advice/attention. Take off contaminated clothing and wash it before reuse.

Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with applicable regulations.
The acute toxicities of 14-40% of the product's ingredients are unknown.



3. Composition/Information on Ingredients

Ingredient	CAS Number	%	Impurities
Hydrotreated heavy naphtha	64742-48-9	9-12	None known
Hydrotreated light distillate	64742-47-8	25-35	None known
Lithium chloride	7447-41-8	10-15	None known
Sodium hexafluoroaluminate	15096-52-3	15-20	None known
Zinc chloride	7646-85-7	1-2	None known

4. First Aid Measures

Eye

Flush affected areas with water for at least 15 minutes. Seek medical assistance if necessary.

Skin

Remove contaminated clothing, and wash affected area with large quantities of water for at least five minutes. Seek medical attention if necessary.

Ingestion

Do not induce vomiting unless so instructed by medical personnel. Seek immediate medical assistance. Do not attempt to give anything by mouth to an unconscious or convulsive person.

Inhalation

If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

Note to Physician or Poison Control Center

If ingested, the components hydrotreated heavy naphtha and hydrotreated light distillate may cause gastrointestinal irritation, nausea, and vomiting. No components are absorbed through the skin, although irritation or injury may occur.

5. Fire Fighting Measures

Extinguishing Media

Use dry chemical, foam, or carbon dioxide. Do not use water.

Fire and Explosion Hazards

This product may ignite if exposed to sources of ignition above its flash point and/or temperatures exceeding its autoignition point. If it is present in a fire or explosion, potential decomposition byproducts may include carbon monoxide, smoke, aluminum, lithium and zinc oxides, fluorides, and irritant combustion byproducts.

Fire Fighting Instructions

If fighting a fire in which this product is present, wear a self-contained breathing apparatus with full-facepiece operated in pressure-demand or other positive pressure mode.

6. Accidental Release Measures

Methods and Materials

Isolate spilled product and transfer to impervious containers.

Personal Precautions

Avoid contact with skin, eyes, and mucous membranes. Wear appropriate protective equipment (e.g., gloves, chemical goggles) during cleanup.

Environmental Precautions

Prevent spills from entering sewers or contaminating soil.

7. Handling and Storage

Handling Precautions

Avoid contact with skin and clothing, using protective equipment as needed.

Work and Hygiene Practices

To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.

Storage Precautions

Keep containers tightly closed. Store in a cool place away from sources of ignition and incompatible materials (see Section #10).

8. Exposure Controls and Personal Protection

Ingredients - Exposure Limits

Hydrotreated heavy naphtha

No specific ACGIH TLV(s) OSHA PEL: 500 ppm TWA

Manufacturer's recommended OEL: 1,200 mg/m3 TWA

Hydrotreated light distillate

No specific ACGIH TLV(s) OSHA PEL: 500 ppm TWA

Manufacturer's recommended OEL: 1,200 mg/m3 TWA

Lithium chloride

No ACGIH TLV(s) No OSHA PEL(s)

Sodium fluoroaluminate

ACGIH TLV: 2.5 mg/m3 TWA (as F-) OSHA PEL: 2.5 mg/m3 TWA (as F-)

Zinc chloride

ACGIH TLVs: 1 mg/m3 TWA; 2 mg/m3 STEL OSHA PEL: 1 mg/m3 TWA

Ingredients - Biological Limits

Hydrotreated heavy naphtha

No ACGIH BEI(s) or other biological limit(s)

Hydrotreated light distillate

No ACGIH BEI(s) or other biological limit(s)

Lithium chloride

No ACGIH BEI(s) or other biological limit(s)

Sodium fluoroaluminate

ACGIH BEIs for fluoride in urine: 2 mg/l. prior to shift

3 mg/l. end of shift

Zinc chloride

No ACGIH BEI(s) or other biological limit(s)

Engineering Controls

Use dilution or local exhaust ventilation adequate to maintain concentrations of all components and their byproducts to within their applicable standards.

Eye/Face Protection

Wear eye protection adequate to prevent eye contact with the product and injury if the product is used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3/#4) are recommended.

Skin Protection

Wear appropriate protective gloves and clothing to prevent skin injuries from the hazards of brazing and/or for prolonged or repeated contact with the product. Avoid flammable fabrics.

Respiratory Protection

If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (facepiece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

9. Physical and Chemical Properties

Appearance: viscous liquid
Odor: mineral spirits
Odor threshold: not determined
pH: not applicable
Melting point: not applicable
Freezing point: not determined
Boiling point: >354F./179C.
Boiling range: 354-495F./179-257C.
Flash Point: approx. 174F./79C.
Evaporation Rate: <0.01 (n-butyl acetate = 1.0)
Flammability Class: IIIA
Lower Explosive Limit: approx. 0.6
Upper Explosive Limit: approx. 5.4
Vapor pressure: <1 mm Hg @ 25C.
Vapor density: approx. not determined
Relative density (H2O): not determined
Solubility (H2O): insoluble
Oil-water partition coefficient: not determined
Autoignition Point: >392F./200C.
Decomposition temperature: not determined
Viscosity: not determined

10. Stability and Reactivity

Reactivity: none reasonably foreseeable
Stability: stable
Hazardous Polymerization: will not occur
Risk of Dangerous Reactions: Some components of the product may decompose at elevated temperatures.

Incompatible Materials

Strong oxidizing agents; potassium; acetic anhydride; bromine trifluoride; halogenated hydrocarbons; zirconium; sulfuric acid.

Potential Hazardous Decomposition Products

Oxides of aluminum, lithium, and zinc, carbon monoxide, carbon dioxide, ammonia, smoke, and decomposition byproducts.

11. Toxicological Information

This product has not been tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Hydrotreated heavy naphtha	
LD50: >15,000 mg/kg (oral/rat)	LC50: No data available
Hydrotreated light distillate	
LD50: >15,000 mg/kg (oral/rat)	LC50: No data available
Lithium chloride	
LD50: 526 mg/kg (oral/rat)	LC50: No data available
Sodium fluoroaluminate	
LD50: 5,000 mg/kg (oral/rat)	LC50: No data available
Zinc chloride	
LD50: 350 mg/kg (oral/rat)	LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

This product may cause eye irritation.

Skin Hazards

Skin contact may cause mild irritation or defatting of the skin.

Ingestion Hazards

Ingestion of may cause nausea, vomiting, diarrhea, abdominal pain, gastrointestinal irritation, cramps, and central nervous system depression. Chronic ingestion may cause fluorosis (a disease characterized by mottled teeth, osteosclerosis, and pain and loss of mobility in joints).

Inhalation Hazards

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8). If the product is heated to elevated temperatures, vapors of the component hydrocarbon may irritate the nose, throat, and upper respiratory system.

Symptoms Related to Overexposure

Irritation of the nose, throat, and respiratory tract.

Delayed Effects from Long Term Overexposure

Liver and kidney damage, impaired pulmonary function, fluorosis, and/or aggravation of pre-existing diseases of the liver, kidneys, and the skeletal, nervous, and gastrointestinal systems.

Carcinogenicity

The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Germ Cell Mutagenicity

Some inorganic fluorides have been demonstrated to induce mutagenic changes in mammalian cells in culture. No genetic effects in humans from occupational exposure to sodium fluoroaluminate have been established.

Reproductive Effects

The product contains no components determined to be damaging to fertility or the unborn child.

Acute Toxicity Estimates

LD50 (oral): >2,000 mg/kg

LD50 (dermal): no data available

LC50: no data available

Interactive Effects of Components: no data available

12. Ecological Information

No ecological data is available for the product. Ecological data for the components is as follows:

Hydrotreated heavy naphtha

No data available for Aquatic Toxicity to Fish, Invertebrates, Plants, Microorganisms, Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Hydrotreated light distillate

No data available for Aquatic Toxicity to Fish, Invertebrates, Plants, Microorganisms, Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Lithium Chloride

No data available for Aquatic Toxicity to Fish and Invertebrates, Aquatic Toxicity to Plants and Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, Mobility in Soil.

Sodium fluoroaluminate

Aquatic Toxicity to Fish: LC0 = 1,000 mg/l. (Freshwater fish)

Toxicity to Microorganisms: EC0 = 5,69 mg/l. (unspecified microorganisms)

No data available for Aquatic Toxicity to Invertebrates or Plants, Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, or Mobility in Soil.

Zinc Chloride

Aquatic Toxicity to Fish: LC50 = 18.18 mg/l. for 4d. (Freshwater fish)

Aquatic Toxicity to Invertebrates: EC50 = 0.16 mg/l. for 48h. (Daphnia)
Aquatic Toxicity to Plants: NOEC = 0.05 mg/l. for 4d. (Algae)
Toxicity to Microorganisms: EC50 = 30.45 mg/l., time not reported (Bacteria)
No data available for Toxicity to Terrestrial Organisms, Persistence and
Degradability, Bioaccumulation Potential, or Mobility in Soil.

Ozone Depletion Potential: This product contains no ingredients listed in the
Annexes to the Montréal Protocol on Substances that Deplete the Ozone Layer.

13. Disposal Considerations

Do not discharge waste product into sanitary or storm sewers or allow it to
contaminate soil. Consult applicable Federal, State/ Provincial, and local
regulations.

14. Transport Information

UN Number: 2331
Proper Shipping Name: Zinc Chloride, anhydrous mixture
Hazard Class(es): 8
Packing Group: III
Environmental Hazards: not applicable
Transport in Bulk: not applicable
Special Precautions: not applicable

15. Regulatory Information

----- United States Regulatory Information -----

All components of this product are listed on the EPA's TSCA inventory.

SARA Hazard Classes: Acute Health Hazard; Chronic Health Hazard; Fire Hazard

SARA Section 313 Notification: This product contains no ingredients in
concentrations >1% (for carcinogens >0.1%) regulated under Section 313 of the
Emergency Planning and Community Right-To-Know Act of 1986 or 40 CFR 372.

Canadian Regulatory Information -----

All components of this product are listed on either the Domestic Substances
List (DSL) or the Nondomestic Substances List (NDSL).

WHMIS Class(es) and Division(s): B3, D1B, D2B, E

Components on Ingredients Disclosure List:

1. Fluoride compounds, inorganic, n.o.s.
2. Zinc chloride (CASRN 7646-85-7)

This product has been classified according to the hazard criteria of the CPR
and this SDS contains all of the information required by the CPR.

16. Other Information

----- HMIS Ratings (Legend) -----

Health - 2* (moderate chronic hazard)
Flammability - 2 (moderate hazard)
Physical Hazard - 0 (minimal hazard)
PPE - see Note

Note: Lucas-Milhaupt, Inc. recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

NFPA Ratings

Health - 2 Flammability - 2 Reactivity - 0

Preparation Information

Date of Preparation: 7 July 2014

Date of Prior SDS: 27 September 2004

Disclaimer

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Lucas-Milhaupt, Inc.