

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

*** Section 1 - Chemical Product and Company Identification ***

Chemical Formula: Mixture

Product Use: Inhibit formation of oxides and lower the resistance of electrical interfaces

Other Designations: Patent No. 2,844,479, EJC No. 2

Manufacturer/Supplier

AFL Telecommunications
170 Ridgeview Circle
Duncan, SC 29334

Phone: 1-864-433-0333

Emergency Information:

USA: 1-800-866-3941 Ext. 5577 or 1-864-433-5577

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
Proprietary	Microcrystalline wax	50
Proprietary	Detergent	45
7664-39-3	Hydrogen fluoride	<6

*** Section 3 - Hazards Identification ***

Emergency Overview

Grease. Brown. Slight amine odor. Can cause severe irritation and burns of the eyes. Prolonged or repeated contact with the skin can cause severe irritation. Effects can be delayed up to 24 hours after exposure. If heated to decomposition, toxic fumes may be released. No information available for product mixture.

Potential Health Effects

Eyes

Direct contact can cause severe irritation and burns.

Skin

Prolonged or repeated contact with the skin can cause severe irritation and dermatitis. Effects can be delayed up to 24 hours after exposure.

Ingestion

Can cause severe irritation and burns of gastrointestinal tract and central nervous system effects.

Inhalation

If heated, vapors can cause irritation.

Health Effects of Ingredients

Fluorides Can cause irritation of eyes, mucous membranes, skin and respiratory tract. Chronic overexposures: Can cause fluoride deposition in bones and cartilage (fluorosis) as evidenced by x-ray changes. Can be accompanied by stiffness of the joints.

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

Medical Conditions Aggravated By Exposure to the Product

Asthma, chronic lung disease, and skin rashes.

*** Section 4 - First Aid Measures ***

First Aid: Eyes

Flush eyes with plenty of water or saline for at least 15 minutes. Consult a physician immediately.

First Aid: Skin

Wash skin with soap and water for at least 15 minutes. Consult a physician.

First Aid: Ingestion

If swallowed, dilute by drinking large amounts of water. Recommend quantities up to 30 mL (~1 oz.) in children and 250 mL (~9 oz.) in adults. *Never give anything by mouth to a convulsing or unconscious person.* Do **not** induce vomiting. Contact the local Poison Control Center, if available. Consult a physician immediately.

First Aid: Inhalation

Remove to fresh air. If unconscious or severely injured, check for clear airway, breathing and presence of pulse. Perform CPR if there is no pulse or respiration. Consult a physician.

First Aid: Notes to Physician

Topical therapy with 2.5% calcium gluconate gel should be used to treat patients with symptoms of hydrofluoric acid skin burns.

*** Section 5 - Fire Fighting Measures ***

Flash Point: 450°F (232°C)

Flammable Limits: Not determined

Flammable/Combustible Properties

While not considered "flammable" or "combustible" as defined by OSHA or DOT, the material will burn if ignited.

Fire/Explosion: Not an explosion hazard.

Extinguishing Media

Use fire fighting methods and materials that are appropriate for surrounding fire.

Fire Fighting Equipment/Instructions

Fire fighters should wear NIOSH approved, positive pressure, self-contained breathing apparatus and full protective clothing when appropriate.

*** Section 6 - Accidental Release Measures ***

Small/Large Spill

Recover spills for reuse. Absorb remainder with absorbent material. Spills may be slippery and potentially hazardous to personnel or mobile equipment due to reduced traction.

*** Section 7 - Handling and Storage ***

Handling/Storage

Avoid eye and skin contact. Spills may be slippery and potentially hazardous to personnel or mobile equipment due to reduced traction.

Keep containers closed when not in use. Store away from heat, sparks, flames, oxidizers, and other incompatible substances.

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

*** Section 8 - Exposure Controls / Personal Protection ***

Engineering Controls

Use with adequate ventilation to meet the limits listed in Section 8, Exposure Guidelines.

Personal Protective Equipment

Respiratory Protection

Use NIOSH-approved respiratory protection as specified by an Industrial Hygienist or other qualified professional if concentrations exceed the limits listed in Section 8, Exposure Guidelines. Suggested respiratory protection: acid gas cartridges on air purifying facepiece within limitations of protection factor, when TLV is exceeded.

Eye Protection

Wear safety glasses/goggles to avoid eye contact.

Skin Protection

Wear impervious gloves/apron to prevent any skin contact.

General

Remove grease contaminated clothing; launder or dry-clean before reuse. Remove grease contaminated shoes and thoroughly clean and dry before reuse. Cleanse skin thoroughly after contact, before breaks and meals, and at the end of the work period. Grease is readily removed from skin with waterless hand cleaners followed by a thorough washing with soap and water.

Exposure Guidelines

A: General Product Information

AFL recommends an Occupational Exposure Limit for Hydrogen Fluoride of 0.5 ppm TWA and C 2 ppm STEL.

B: Component Exposure Limits

Hydrogen fluoride (7664-39-3)

ACGIH 0.5 ppm TWA, C 2ppm STEL

OSHA 3 ppm TWA

*** Section 9 - Physical & Chemical Properties ***

Physical State: Grease

Boiling Point: Not determined

Vapor Pressure: < 0.01 mm Hg @ 20°C

Solubility in Water: Insoluble

Density: 8 lb/gal

Odor: Slight amine odor

Octanol-Water Coefficient: Not determined

Appearance: Brown

Melting Point: Not determined

Vapor Density: Not applicable

Specific Gravity: 0.95

pH Level: Not applicable

Odor Threshold: Not determined

*** Section 10 - Chemical Stability & Reactivity Information ***

Stability

Stable under normal conditions of use, storage, and transportation.

Conditions to Avoid

Strong oxidizers.

Hazardous Decomposition

Thermal decomposition products include carbon monoxide and carbon dioxide and hydrogen fluoride gas.

Hazardous Polymerization

Will not occur.

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

*** Section 11 - Toxicological Information ***

Health Effects of Ingredients

A: General Product Information: No information available for product mixture. See sections 3 and 8 for component hazards.

B: Component Analysis - LD50/LC50

Hydrogen fluoride (7664-39-3)

Inhalation LC50 Rat: 1276 ppm/1H; Inhalation LC50 Mouse: 342 ppm/1H

Carcinogenicity

A: General Product Information: No information available for product mixture. See below for component characteristics.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, or NTP.

*** Section 12 - Ecological Information ***

Ecotoxicity

A: General Product Information

No information available for product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

No ecotoxicity data was found for this product's components.

Environmental Fate

No information available for product.

*** Section 13 - Disposal Considerations ***

Disposal Instructions

Reuse or recycle material whenever possible. Material may be disposed of at an industrial landfill.

US EPA Waste Number & Descriptions

A: General Product Information

Not federally regulated in the U.S. if disposed of "as is." Otherwise, characterize in accordance with applicable regulations (40 CFR 261 or state equivalent in the U.S.)

B: Component Waste Numbers

RCRA waste codes other than described under Section A may apply depending on use of product. Refer to 40 CFR 261 or state equivalent in the U.S.

*** Section 14 - Transportation Information ***

Special Transportation

	PSN #1	PSN #2	PSN #3	PSN #4
Notes:	(1)(2)			
Proper Shipping Name:	Not regulated			
Hazard Class:	-			
UN NA Number:	-			
Packing Group:	-			
RQ:	-			
Other - Tech Name:	-			
Other - Marine Pollutant:	-			

Notes:

- (1) When "Not regulated," enter the proper freight classification, "MSDS Number," and "Product Name" on the shipping paperwork.
- (2) Per ATC Corrositex[®] test dated 12/1/95, this material does not meet the definition of Hazard Class 8.

Canadian TDG Hazard Class & PIN: Not regulated

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

In reference to Title VI of the Clean Air Act of 1990, this material does not contain nor was it manufactured using ozone-depleting chemicals.

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Hydrogen fluoride (7664-39-3)

SARA 302: 100 lb TPQ
SARA 313: 1.0 % de minimis concentration
CERCLA: 100 lb final RQ; 45.4 kg final RQ

SARA 311/312 Physical and Health Hazard Categories:

Immediate (acute) Health Hazard: Yes
Delayed (chronic) Health Hazard: Yes
Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No

State Regulations

A: General Product Information: No information available for product.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Hydrogen fluoride	7664-39-3	Yes	No	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information: Material meets the criteria for inclusion in WHMIS Hazard Classes D1B and D2B.
RoHS / WEEE: Material components are not restricted for import by RoHS / WEEE EU Regulations.

B: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Hydrogen fluoride	7664-39-3	1 % (English Item 847, French Item 906)

C: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS	AUST.	MITI
Microcrystalline wax	Proprietary	Yes	Yes	Yes	Yes	No
Hydrogen fluoride	7664-39-3	Yes	Yes	Yes	Yes	Yes

*** Section 16 - Other Information ***

MSDS History

Original: July 17, 1981
Supersedes: December 1, 2004
Revised: May 1, 2008, May 6, 2009

MSDS Status

5-6-09; Periodic review. Changes to sections 8 and 11.
5/1/08; Reviewed on periodic basis. Change in section 8, 5/6/09 reviewed with change in section 3.
12/01/04: Reviewed on a periodic basis in accordance with AFL policy. Changes in Sections 1, 3, 4 and 15.
10/19/2001: New format

Prepared By

Hazardous Materials Control Committee
Preparer: Jon N. Peace, 412-553-2293

Material Safety Data Sheet

Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

Revised by: Gerald Beaumont, 864-987-0800

MSDS System Number: 115623

Other Information

- * Guide to Occupational Exposure Values-2004, Compiled by the American Conference of Governmental Industrial Hygienists (ACGIH).
- * Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1991, Compiled by the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH).
- * NIOSH Pocket Guide to Chemical Hazards, U.S. Department of Health and Human Services, June 1994.
- * Patty's Industrial Hygiene and Toxicology: Volume II: Toxicology, 4th ed., 1994, Patty, F. A.; edited by Clayton, G. D. and Clayton, F. E.: New York: John Wiley & Sons, Inc.
- * Integrated Index(R), MICROMEDEX, Inc., 2004

Key-Legend:

ACGIH	American Conference of Governmental Industrial Hygienists
AICS	Australian Inventory of Chemical Substances
CAS	Chemical Abstract Service
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
CPR	Cardio-pulmonary Resuscitation
DOT	Department of Transportation
DSL	Domestic Substances List (Canada)
EC	Effective Concentration
ED	Effective Dose
EINECS	European Inventory of Existing Commercial Chemical Substances
EPA	Environmental Protection Act
IARC	International Agency for Research on Cancer
LC ₅₀	Lethal concentration (50 percent kill)
LC _{Lo}	Lowest published lethal concentration
LD ₅₀	Lethal dose (50 percent kill)
LD _{Lo}	Lowest published lethal dose
LFL	Lower Flammable Limit
MITI	Ministry of International Trade & Industry
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program
OEL	Occupational Exposure Limit
OSHA	Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
PIN	Product Identification Number
PSN	Proper Shipping Name
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
STEL	Short Term Exposure Limit
TCLP	Toxic Chemicals Leachate Program
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value
TSCA	Toxic Substance Control Act
TWA	Time Weighted Average
UFL	Upper Flammable Limit
WHMIS	Workplace Hazardous Materials Information System
atm	atmosphere
cm	centimeter
g, gm	gram
in	inch
kg	kilogram
lb	pound
m	meter
mg	milligram
ml, ML	milliliter
mm	millimeter
mppcf	million particles per cubic foot
n.o.s.	not otherwise specified
ppb	parts per billion
ppm	parts per million
psia	pounds per square inch absolute
u	micron

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Product Name: ELECTRICAL JOINT COMPOUND No. 2

ID: 91

ug microgram

INFORMATION HEREIN IS GIVEN IN GOOD FAITH AS AUTHORITATIVE AND VALID; HOWEVER, NO WARRANTY, EXPRESS OR IMPLIED, CAN BE MADE.

This is the end of MSDS # 91