



~~PART # 604431~~

115623

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

Alcoa Inc.
201 Isabella Street
Pittsburgh, PA 15212-5858

Health and Safety: 1-412-553-4649

Manufacturer/Supplier
Alcoa Fujikura Ltd.
150 Ridgeview Circle
Duncan, SC 29334

1-864-433-0333

Emergency Information:

USA: Chemtrec: 1-800-424-9300 or 1-703-527-3887

Alcoa: 1-412-553-4001

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

CAS #	Component	Percent
Proprietary	Microcrystalline wax - petroleum oil blend, corrosion inhibited	50
Proprietary	Detergent	45
7664-39-3	Hydrogen fluoride	<6

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fluorides (16984-48-8).

***** Section 3 - Hazards Identification *****

Emergency Overview

Grease. Brown. Slight amine odor. Can cause severe irritation and burns of the eyes. Prolonged or repeated contact can cause severe irritation and burns. Effects can be delayed up to 24 hours after exposure. If heated to decomposition, toxic fumes may be released.

Potential Health Effects

Eyes

Direct contact can cause severe irritation and burns.

Skin

Prolonged or repeated contact 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.

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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 immediately.

First Aid: Ingestion

If swallowed, dilute by drinking large amounts of water. *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 immediately.

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 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 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.

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*** 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: P95.

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

Alcoa recommends an Occupational Exposure Limit for hydrogen fluoride of 2.5 mg/m³ TWA and 4.9 mg/m³ STEL.

B: Component Exposure Limits

Hydrogen fluoride (7664-39-3)

ACGIH 2.5 mg/m³ TWA (as F) (related to Fluorides)

ACGIH C 3 ppm (as F)

OSHA 3 ppm TWA

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

Physical State:	Grease	Appearance:	Brown
Boiling Point:	Not determined	Melting Point:	Not determined
Vapor Pressure:	< 0.01 mm Hg @ 20°C	Vapor Density:	Not applicable
Solubility Water:	insoluble	Specific Gravity:	Not determined
Density:	8 lb/gal	pH Level:	Not applicable
Odor:	Slight amine odor	Odor Threshold:	Not determined
Octanol-Water Coefficient:	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.

*** Section 11 - Toxicological Information ***

Health Effects of Ingredients

A: General Product Information

No information available for product.

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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.

B: Component Carcinogenicity

Hydrogen fluoride (7664-39-3)

ACGIH A4 - Not Classifiable as a Human Carcinogen (as F) (related to Fluorides)

*** 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) This material has been tested under UN criteria (1992 OECD Guideline) and found not to meet the definition of Hazard Class 8.

Canadian TDG Hazard Class & PIN: Not regulated

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*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

No information available for product.

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: TPQ = 100 pounds; RQ = 100 pounds

SARA 313: form R reporting required for 1.0% de minimis concentration

CERCLA: final RQ = 100 pounds (45.4 kg)

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	Yes	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information

No information available for product.

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 - petroleum oil blend, corrosion inhibited	Proprietary	No	No	No	No	No
Detergent	Proprietary	No	No	No	No	No
Hydrogen fluoride	7664-39-3	Yes	Yes	Yes	Yes	Yes

*** Section 16 - Other Information ***

MSDS History

Original: July 17, 1981

Supersedes: October 9, 1998

Revised: October 19, 2001

MSDS Status

New format

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Prepared By

Hazardous Materials Control Committee

MSDS System Number

115623

Other Information

- * Guide to Occupational Exposure Values-2001, 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.
- * Dangerous Properties of Industrial Materials, Sax, N. Irving, Van Nostrand Reinhold Co., Inc., 1984.
- * 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.
- * TOMES CPS(TM), MICROMEDEX, Inc., 2001

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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)
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 ₀	Lowest published lethal concentration
LD ₅₀	Lethal dose (50 percent kill)
LD ₀	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
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

CAUTION

**Can cause severe irritation of eyes and skin.
Symptoms of irritation may be delayed.
Avoid contact with eyes and skin.
Do not take internally.
Keep out of reach of children.**

FIRST AID

**Eye contact: Flush immediately with
water for at least 15 minutes.**

**Skin contact: Wash with soap and
water for at least 15 minutes.**

Consult a physician immediately.

**See Alcoa Material Safety Data Sheet No. 91 for more
information about use and disposal.**



ELECTRICAL JOINT COMPOUND No. 2

(EJC)



CAUTION

Hazards: Can cause severe irritation and burns of the eyes. Prolonged or repeated contact can cause severe irritation and burns. Effects can be delayed up to 24 hours after exposure.

If heated to decomposition, toxic fumes may be released.

Chronic overexposures to fluoride dust can result in fluoride deposition in bones and cartilage (fluorosis) which may be accompanied by stiffness of joints.

Precautions: Avoid contact with the eyes. Do not take internally. Keep out of reach of children.

Use appropriate personal protective equipment (safety glasses/goggles/gloves) to avoid injury.

First aid: EYES: Immediately flush eyes with plenty of water for at least 15 minutes. Consult a physician immediately. SKIN: Immediate wash skin with soap and water for at least 15 minutes. Consult a physician immediately.

Refer to Alcoa Material Safety Data Sheet No. 91 for more information about product use and disposal.

Emergency Phone: (412) 553-4001.

INGREDIENTS:

Microcrystalline wax -
Petroleum oil blend
Detergent with Fluoride
Hydrogen Fluoride

CAS NUMBERS:

(--)
(--)
{7664-39-3}

Alcoa Inc.

201 Isabella Street, Pittsburgh, PA 15212-5858 USA

10/01 91

PATE POUR CONNEXION ÉLECTRIQUE No. 2

(EJC)



ATTENTION

Dangers: Peut causer irritation aiguë et brûlures de les yeux. Un contact prolongé ou répété avec la peau peut provoquer une irritation aiguë et brûlures. Les effets peuvent être retardés jusqu'à 24 heures.

Peut se décomposer, à de hautes températures, en formant des gaz toxiques.

La surexposition chronique à la poussière de fluorure peut causer la formation de dépôts de fluorure dans les os et dans les cartilages (fluorose); ces dépôts peuvent également être accompagnés de raideur dans les articulations.

Précautions: Éviter le contact avec les yeux. Ne pas avaler. Tenir hors de la portée des enfants.

Utiliser les équipements de protection personnelle nécessaires à éviter le contact (lunettes de sécurité/gants).

Premiers soins: YEUX: Laver immédiatement les yeux à grande eau durant au moins 15 minutes. Consulter immédiatement un médecin. PEAU: Laver immédiatement au moins 15 minutes avec de l'eau et du savon. Consulter immédiatement un médecin.

Pour de plus amples informations sur l'utilisation et la mise au rebut du produit, lire la fiche de données de sécurité des matières d'Alcoa No. 91.

No. de téléphone d'urgence: (412) 553-4001.

