

MATERIAL SAFETY DATA SHEET

Anodal CS-2 liq

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Substance key: COV231515
Version : 2 - / USA

Revision Date: 08/21/2006
Date of printing :04/09/2008

Section 01 - Product Information

Identification of the company:

Clariant Corporation
4000 Monroe Road
Charlotte, NC, 28205
Telephone No.: +1 704 331 7000

Information of the substance/preparation:

Pigments and Additives
Product Safety 1-401-823-2366

Emergency tel. number: +1 800-424-9300 CHEMTREC

Trade name: Anodal CS-2 liq
Material number: 153847
Formula: MIXTURE
Primary product use: Low Temperature Seal For Anodized Aluminum
Chemical family: Nickel Fluoride Solution

Section 02 - Composition information on hazardous ingredients

Hazardous ingredients:

Component	CAS-no. (Trade secret no.)	Concentration
Hydrofluoric acid	7664-39-3	< 3 %
Nickel fluoride	10028-18-9	< 10 %
Nickel (as integral part of the compound)	7440-02-0	< 3 %
Fluorides (as F)	16984-48-8	< 3 %

Section 03 - Hazards identification

Expected Route of entry:

Inhalation: yes
Skin contact: yes
Eye contact: yes
Ingestion: yes
Skin absorption: yes

Health effects of exposure:

Hydrofluoric Acid (7664-39-3)

Hydrofluoric Acid: Mist is extremely corrosive to the eyes. Brief contact causes severe eye damage. Prolonged contact causes permanent eye injury. Contact with skin can cause irritation and ulceration, especially under fingernails. Mists are highly corrosive to the entire respiratory tract. Inhalation can destroy the mucous membranes and can cause pneumonitis. Severe exposure can lead to death. Ingestion causes severe and rapid burning of the mouth, throat, and digestive tract accompanied by severe pain, vomiting, and collapse. Effects of contact with

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dilute solutions of hydrofluoric acid or its vapors may be delayed. The potential delay in clinical signs or symptoms for 20-50% concentrations range from 1-8 hours. Can also cause bone and joint changes in humans (fluorosis).

Nickel Fluoride (10028-18-9)

Nickel Fluoride: Sensitization or allergic reactions (nickel itch or rash) and respiratory disorders may result from prolonged exposure to nickel compounds. All nickel compounds are classified as human and animal carcinogens. See further information on nickel and specific compounds of nickel listed in this section of the MSDS. Chronic ingestion of fluoride may cause bone and kidney damage or mottling of teeth. Chronic fluoride inhalation may cause nosebleeds and sinus trouble. See further information on fluorides contained in this section.

Nickel and Specific Compounds of Nickel (7440-02-0)

Nickel and Specific Compounds of Nickel: Effects listed for nickel and specific compounds of nickel apply to nickel and the specific compounds listed in the IARC 7th annual report on carcinogens, 1994. Certain chemical conditions not typically encountered with use of this product may result in formation of nickel or the specific compounds listed in the IARC report. Nickel and specific compounds of nickel have been reported to cause dermatitis in sensitive individuals. Ingestion of soluble salts causes nausea, vomiting and diarrhea. Dust may irritate eyes, mucous membranes and skin. Nickel is not an acute systemic poison but chronic exposure to nickel metal fume or oxide dusts may cause cancer. Exposure to elemental nickel and nickel salts can cause cancer of the lung and nasal passages. Nickel is an experimental carcinogen, equivocal tumorigenic agent, and has been shown to cause neoplastic effects. Nickel is a positive animal carcinogen (IARC), human carcinogen (NTP) and animal teratogen. Positive tests for mutagenicity have been reported for nickel and some specific compounds of nickel. In general, uncorroborated case reports and in-vitro studies, such as Ames tests, are useful pieces of information but not definitive findings of hazards.

Fluoride

Fluorides: Can irritate and may damage the eyes. They can also irritate the skin causing a rash or burning feeling on contact. Breathing can irritate the nose and throat. High levels can irritate the lungs causing a build-up of fluid in the lungs (pulmonary edema). Exposure can cause nausea, headaches and,, nosebleeds. Chronic overexposure to fluorides may cause fluorosis, which causes digestive disturbances, discoloration of tooth enamel, brittleness of the bones, loss of weight, anorexia, anemia.

Known effects on other illnesses:

No known effects on other illnesses for this product.

Listed carcinogen:

IARC: Yes
NTP: Yes
OSHA: No
Other: No

HMIS:

Health: 2*

Flammability: 1

Reactivity: 0

Personal protection: F

Section 04 - First aid measures

After inhalation:

Get victim to fresh air. Give artificial respiration or oxygen if breathing has stopped. Get prompt medical attention. Do not give fluids if victim is unconscious.

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After contact with skin:

Wash thoroughly with soap and water for 15 minutes. If skin irritation occurs, seek medical attention.

After contact with eyes:

Flush immediately under running water for fifteen minutes. If redness or irritation occurs, seek medical attention.

After ingestion:

If victim is conscious, give large amounts of water or milk. Consult a physician. Never give anything by mouth to an unconscious person.

Advice to doctor / Treatment:

None known.

Section 05 - Fire fighting measures

Flashpoint: No data.

Lower explosion limit: not determined

Upper explosion limit: not determined

Hazardous combustion products:

Oxides of nitrogen, silicon, carbon, fluorine, or hydrogen fluoride may be formed at temperatures above 265 degrees F. Decomposition residue will contain nickel.

Extinguishing media: Carbon dioxide, water, alcohol resistant foam, dry chemical. water spray jet

Special fire fighting procedure:

Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece when fighting chemical fires. Move containers from fire area if it can be done without risk.

Unusual fire and explosion hazards: Emits toxic and corrosive fumes of nickel, nickel oxide, fluoride and hydrogen fluoride.

Section 06 - Accidental release measures

Steps to be taken in case of spill or leak:

Contain spill. Contains heavy metals. Avoid runoff to sewers and bodies of water. Wear proper protective equipment. Absorb on suitable absorbant materials. Clean up by scrubbing with soap and water, collect cleaning wastes, or remove contaminated soils. Place in proper containers.

Section 07 - Handling and storage

Advice on safe handling:

Keep containers closed. Avoid getting on skin or in eyes when handling product.

Further info on storage conditions:

Store in a cool, dry, well-ventilated area. Keep container sealed when not in use.

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Section 08 - Exposure controls / personal protection

Occupational exposure limits:

Component	CAS number:	Regulatory list	Type of value	Value 1	Value 2
HYDROGEN FLUORIDE, AS /F/	7664-39-3	US OSHA Table Z-1-A Data	Time Weighted Average (TWA):	3 ppm	
HYDROGEN FLUORIDE, AS /F/	7664-39-3	US OSHA Table Z-1-A Data	Short Term Exposure Limit (STEL):	6 ppm	
HYDROGEN FLUORIDE, AS F	7664-39-3	US ACGIH Threshold Limit Values Data	Ceiling Limit Value:	2 ppm	
HYDROGEN FLUORIDE, AS F	7664-39-3	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):	0.5 ppm	
FLUORIDES, AS /F/	10028-18-9	US OSHA Table Z-1-A Data	Time Weighted Average (TWA):		2.5 mg/m3
NICKEL, SOLUBLE COMPOUNDS, AS /NI/	10028-18-9	US OSHA Table Z-1-A Data	Time Weighted Average (TWA):		0.1 mg/m3
FLUORIDES, AS F	10028-18-9	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):		2.5 mg/m3
NICKEL, INSOLUBLE COMPOUNDS (NOS), AS NI, INHALABLE FRACTION	10028-18-9	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):		0.2 mg/m3
NICKEL, SOLUBLE INORGANIC COMPOUNDS (NOS), AS NI, INHALABLE FRACTION	10028-18-9	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):		0.1 mg/m3
NICKEL, METAL AND INSOLUBLE COMPOUNDS, AS /NI/	7440-02-0	US OSHA Table Z-1-A Data	Time Weighted Average (TWA):		1 mg/m3
NICKEL, ELEMENTAL, INHALABLE FRACTION	7440-02-0	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):		1.5 mg/m3
FLUORIDES, AS F	16984-48-8	US ACGIH Threshold Limit Values Data	Time Weighted Average (TWA):		2.5 mg/m3
FLUORIDES, AS /F/	16984-48-8	US OSHA Table Z-1-A Data	Time Weighted Average (TWA):		2.5 mg/m3

Respiratory protection: Use NIOSH/MSHA approved respirators following manufacturer's recommendations where dust or fume may be generated.

Hand protection: Butyl Rubber, PVC Or Neoprene.

Eye protection: Safety glasses or chemical splash goggles.

Other protective equipment: Clothing suitable to prevent skin contact.

Advice on system design: Local ventilation recommended - mechanical ventilation may be used.

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Section 09 - Physical and chemical properties

Form:	Liquid
Color:	green
 Odor:	not specified
pH:	4 - 5
Solubility in water:	soluble

Section 10 - Stability and reactivity

Chemical stability:	Stable.
Hazardous Polymerization:	Will not occur. Conditions to avoid: None known.
Conditions to avoid:	Oxidizers, sulfides, cyanides, alkalis and potassium. Also avoid silicon- bearing materials, concrete and organics such as cloth or leather.

Section 11 - Toxicological information

Product information:	
Acute oral toxicity:	LD50 > 500 mg/kg (rat)
Acute inhalation toxicity:	No data.
Acute dermal toxicity:	No data.
Skin irritation:	not determined
Eye irritation:	not determined

Section 12 - Ecological information

Product information:	
Biodegradation:	No data.
Fish toxicity:	No data available.
Daphnia toxicity:	No data available.
Algae toxicity:	No data available.

Section 13 - Disposal considerations

Waste disposal information:
Until neutralized, waste material is a rcra hazardous waste. If approved, waste material may be drained to sewer, to waste disposal system, or may be landfilled in approved facility.

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RCRA hazardous waste:

Yes -- If it becomes a waste as sold.
RCRA number: D002

Section 14 - Transport information

DOT Regulation:

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s.
Hazard class: 8
Packing group: II
UN/NA-number: UN 3264
Primary hazard class: 8
Technical Name: Hydrofluoric acid
Emergency Response Guide: 154
Reportable Quantity: 1,512.000 kg Hydrofluoric acid
0.000 kg

IATA

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s.
Class: 8
Packing group: II
UN/ID number: UN 3264
Primary risk: 8
Hazard inducer(s): Hydrofluoric acid

IMDG

Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s.
Class: 8
Packing group: II
UN no.: UN 3264
Primary risk: 8
Hazard inducer(s): Hydrofluoric acid
EmS: F-A S-B

Section 15 - Regulatory information

TSCA Status:

All components of this product are listed on the TSCA Inventory.

SARA (section 311/312):

Reactive hazard: no
Pressure hazard: no
Fire hazard: no
Immediate/acute: yes
Delayed/chronic: yes

SARA 302 information:

Component	CAS-no. (Trade secret no.)	Concentration
Hydrofluoric acid	7664-39-3	< 3 %

SARA 313 information:

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This product contains toxic chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372. Any such toxic chemical(s) are shown below. This information must be included in all MSDS's that are copied and distributed for this material.

Hydrofluoric acid	7664-39-3	< 3 %
Nickel, insoluble compounds, as Ni	7440-02-0	< 3 %

Clean Water Act:

Contains priority pollutant nickel at concentrations greater than 0.1%.

CERCLA information:

Component	CAS-no. (Trade secret no.)	Percentage	RQ
HYDROFLUORIC ACIDHYDROGEN FLUORIDE	7664-39-3	< 3 %	100 LBS
NICKEL	7440-02-0	< 3 %	100 LBS
NICKEL AND COMPOUNDS	7440-02-0	< 3 %	

FDA:

Permitted for Use per Section: NONE

This product is not registered with the FDA.

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Section 16 - Other information

Other precautions:

Do not repackage product. Add product slowly to avoid splashing. Dilute solutions may not be painful or show visible effects until hours after skin exposure, during which time the fluoride ion has penetrated the skin causing possible destruction of tissue and development of skin ulcers. hydrogen fluoride is extremely irritating and readily penetrates the skin to attack underlying tissue and bone. its burns are slow to heal.

Label information:

WARNING!

CORROSIVE TO SKIN AND EYES MAY CAUSE IRRITATION TO THE LUNGS.
COMBUSTIBLE LIQUID AND VAPOR HARMFUL IF SWALLOWED Contact of this product with strong acids may liberate dangerous hydrogen fluoride gas.

Avoid contact with skin, eyes, and clothing. Use only with adequate ventilation, and proper protective eyewear, gloves, and clothing. Wash thoroughly after handling. Keep container closed.

In case of contact, flush eyes with plenty of water for 15 minutes. Get medical attention immediately. Flush affected skin areas with water, and wash with mild soap and water. Remove contaminated clothing. If INHALED, remove individual to fresh air. If breathing is difficult, give oxygen. If ingested, give water or milk to dilute stomach contents. Never give anything by mouth to an unconscious person. Get medical attention immediately for ingestion or breathing problems or if skin contact is extensive.

This information is supplied under the OSHA Hazard Communication Standard, 29 CFR 1910.1200, and is offered in good faith based on data available to us that we believe to be true and accurate. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable to the material. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate for that use. No warranty, express or implied, is made regarding the accuracy of this data, the hazards connected with the use of the material, or the results to be obtained from the use thereof. We assume no responsibility for damage or injury from the use of the product described herein. Data provided here are typical and not intended for use as product specifications. (R) and TM indicate trademarks of Clariant AG, its business partners or suppliers.