



SAFETY DATA SHEET

Revision Date 20-January-2016

Version 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Name F-2164-ES Steel Cleaner Plus

UN/ID No UN1789
Product Code F-2164-ES

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Cleaning agent.

Details of the Supplier of the Safety Data Sheet

Supplier Address

Delta Foremost Chemical Corporation
3915 Air Park St.
Memphis, Tennessee 38118

Emergency Telephone Number

Company Phone Number (901) 363-4340
Emergency Telephone INFOTRAC 1-352-323-3500 (International)
1-800-535-5053 (North America)

2. HAZARDS IDENTIFICATION

Classification

Skin Corrosion/Irritation	Category 1C
Serious Eye Damage/Eye Irritation	Category 2A
Acute Toxicity, Oral	Category 4
Specific Target Organ Toxicity – Single Exposure	Category 3
Corrosive to Metals	Category 1

Signal Word

DANGER

Hazard Statements

Causes severe skin burns and eye damage.
Causes serious eye irritation.
Harmful if swallowed.
May cause respiratory irritation.
May be corrosive to metals.



Appearance Clear Liquid

Physical State Liquid

Odor Acidic

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other Hazards

Harmful to aquatic life with long lasting effects
Harmful to aquatic life

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Ammonium Bifluoride	1341-49-7	Proprietary
Ethylene Glycol Monobutyl Ether	111-76-2	Proprietary
Nitric Acid	7697-37-2	Proprietary
Hydrochloric Acid	7647-01-0	Proprietary
Sulfuric Acid	7664-93-9	Proprietary

Product contains a proprietary mixture of ingredients.

4. FIRST AID MEASURES**First Aid Measures**

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	Flush with plenty of water for at least 15 minutes. See physician immediately.
Skin Contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If irritation persists, seek medical attention.
Inhalation	Remove to fresh air. Seek immediate medical attention/advice.
Ingestion	Do NOT induce vomiting. Drink promptly a large quantity of milk, egg whites, gelatin solution; or if they are not available, drink large quantities of water. Avoid alcohol.

Most Important Symptoms and Effects, both Acute and Delayed

Symptoms	Burning and/or irritation to eyes and skin. Irritation and corrosive burns to mouth, throat, and stomach. May cause irritation to the mucous membranes and upper respiratory tract.
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Indication of any Immediate Medical Attention and Special Treatment Needed**Note to Physicians**

Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Foam, carbon dioxide or dry chemical extinguisher, or water.

Unsuitable Extinguishing Media Not determined.**Specific Hazards Arising from the Chemical**

Product is not flammable.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal Precautions, Protective Equipment and Emergency Procedures****Personal Precautions**

Wear protective clothing as described in Section 8 of this safety data sheet.

Environmental Precautions

See Section 12 for additional ecological information.

Methods and Material for Containment and Cleaning Up**Methods for Containment**

Prevent further leakage or spillage if safe to do so. Contain and absorb with suitable absorbent for disposal.

Methods for Cleaning Up

Soak up with inert absorbent material. Reclaim spilled material into approved container for proper disposal. Remaining material may be neutralized. For waste disposal, see section 13 of the SDS. Neutralize with a lime or soda ash and flush area with large amounts of water.

7. HANDLING AND STORAGE**Precautions for Safe Handling****Advice on Safe Handling**

Use personal protection recommended in Section 8. Wash face, hands, and any exposed skin thoroughly after handling. Do not breathe vapors or spray mist. Use only in well-ventilated areas. Do not eat, drink or smoke when using this product.

Conditions for Safe Storage, Including any Incompatibilities**Storage Conditions**

Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.

Incompatible Materials

Bases, Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ammonium Bifluoride 1341-49-7	TWA: 2.5 mg/m ³	TWA: 2.5 mg/m ³	
Ethylene Glycol Monobutyl Ether 111-76-2	TWA: 20 ppm	TWA: 50 ppm TWA: 240 mg/m ³ (vacated) TWA: 25 ppm (vacated) TWA: 120 mg/m ³ (vacated) S*	IDLH: 700 ppm TWA: 5 ppm TWA: 24 mg/m ³
Nitric Acid 7697-37-2	STEL: 4 mg/m ³ TWA: 2 mg/m ³	TWA: 5 mg/m ³	TWA: 5 mg/m ³
Hydrochloric Acid 7647-01-0	STEL: 2 ppm	TWA: 5 ppm STEL: 7 mg/m ³	TWA: 5 ppm STEL: 7 mg/m ³
Sulfuric Acid 7664-93-9	TWA: 0.2 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³

Appropriate Engineering Controls

Engineering Controls

Ventilation must be adequate to maintain the ambient workplace atmosphere below the exposure limit(s) outlined in the SDS.

Individual Protection Measures, such as Personal Protective Equipment

Eye/Face Protection

Goggles or face shield.

Skin and Body Protection

Wear protective Neoprene™ gloves, Rubber gloves.

Respiratory Protection

Ensure adequate ventilation, especially in confined areas.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	Liquid	Odor	Acidic
Appearance	Clear Liquid	Odor Threshold	Not determined
Color	Colorless		
Property	Values	Remarks • Method	
pH	1.3 – 1.7		
Melting Point/Freezing Point	Not available		
Boiling Point/Boiling Range	100 °C / 212 °F		
Flash Point	Not available		
Evaporation Rate	Not available		
Flammability (Solid, Gas)	Not determined		
Upper Flammability Limits	Not available		
Lower Flammability Limit	Not available		
Vapor Pressure	Same as water		
Vapor Density	Same as water		
Specific Gravity	1.127	(1=Water)	
Water Solubility	Soluble in water		
Solubility in Other Solvents	Not determined		
Partition Coefficient	Not determined		
Autoignition Temperature	Not determined		
Decomposition Temperature	Not determined		
Kinematic Viscosity	Not determined		
Dynamic Viscosity	Not determined		

Explosive Properties	Not determined
Oxidizing Properties	Not determined

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions. Will react with incompatible materials.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization

Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Bases, Strong oxidizing agents.

Hazardous Decomposition Products

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Product Information

Eye Contact

Causes serious eye irritation.

Skin Contact

Causes severe skin burns.

Inhalation

May cause irritation to the mucous membranes and upper respiratory tract.

Ingestion

Can cause irritation and corrosive burns to mouth, throat, and stomach.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Ethylene Glycol Monobutyl Ether 111-76-2	= 470 mg/kg (Rat)	= 2270 mg/kg (Rat) = 220 mg/kg (Rabbit)	= 2.21 mg/L (Rat) 4 h = 450 ppm (Rat) 4 h
Sulfuric acid 7664-93-9	= 2140 mg/kg (Rat)	-	= 510 mg/kg (Rat) 2 h

Information on Physical, Chemical and Toxicological Effects

Symptoms

Please see section 4 of this SDS for symptoms.

Delayed and Immediate Effects as well as Chronic Effects from Short and Long-term Exposure

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethylene Glycol Monobutyl Ether 111-76-2	A3	Group 3		

ACGIH (American Conference of Governmental Industrial Hygienists)

A3 - Animal Carcinogen

IARC (International Agency for Research on Cancer)

Group 3 IARC components are "not classifiable as human carcinogens"

Numerical Measures of Toxicity

Not determined

12. ECOLOGICAL INFORMATION

Ecotoxicity

Harmful to aquatic life. Harmful to aquatic life with long lasting effects.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Ethylene Glycol Monobutyl Ether 111-76-2		1490: 96 h Lepomis macrochirus mg/L LC50 static 2950: 96 h Lepomis macrochirus mg/L LC50		1698 - 1940: 24 h Daphnia magna mg/L EC50 1000: 48 h Daphnia magna mg/L EC50
Hydrochloric Acid 7647-01-0	-	282: 96 h Gambusia affinis mg/L LC50	-	-
Sulfuric acid 7664-93-9		42: 96 h Gambusia affinis mg/L L50		29: 24 h Daphnia magna mg/L EC50

Persistence and Degradability

Not determined

Bioaccumulation

Not determined

Mobility

Chemical Name	Partition Coefficient
Ethylene Glycol Monobutyl Ether 111-76-2	0.81

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Chemical Name	California Hazardous Waste Status
Hydrochloric Acid 7647-01-0	Corrosive Toxic Reactive

14. TRANSPORT INFORMATION

Note

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

DOT

UN/ID No	UN1789
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid solution)
Hazard Class	8
Packing Group	II

IATA

UN/ID No	UN1789
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid solution)
Hazard Class	8
Packing Group	II

IMDG

UN/ID No	UN1789
Proper Shipping Name	Corrosive liquid, acidic, inorganic, n.o.s. (Hydrochloric acid solution)
Hazard Class	8
Packing Group	II

15. REGULATORY INFORMATION

International Inventories

Not Determined

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations**CERCLA****SARA 302**

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Sulfuric acid	7664-93-9	Proprietary	1.0

SARA 313

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Ethylene Glycol Monobutyl Ether	111-76-2	Proprietary	1.0
Sulfuric acid	7664-93-9	Proprietary	1.0

CWA (Clean Water Act)

None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

US State Regulations**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Ammonium Bifluoride 1341-49-7	X	X	X
Ethylene Glycol Monobutyl Ether 111-76-2	X	X	X
Hydrochloric Acid 7647-01-0	X	X	X
Sulfuric Acid 7664-93-9	X	X	X

16. OTHER INFORMATION**NFPA****Health Hazards**

3

Flammability

0

Instability

0

Special Hazards

Not determined

HMIS**Health Hazards**

3

Flammability

0

Physical Hazards

0

Personal Protection

Not determined

Revision Date

20-January-2016

Revision Note

New format

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet