

SAFETY DATA SHEET

Rust Remover Plus

Revision Date

6/1/2015

SECTION - 1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME Rust Remover Plus **PRODUCT USE** Rust Stain Remover **ITEM** RR+
COMPANY NAME Delux® Inc. **Office** (817) 625-4213
2300 Cold Springs Road **Fax** (817) 625-2059
Fort Worth TX 76106 **Web** <http://www.Delux® Inc.>
EMERGENCY TELEPHONE NUMBER Chem-Tel **(800) 255-3924**

SECTION - 2 HAZARDS INFORMATION

Physical Hazards CORROSIVE TO METALS-Category 1
Health Hazrds EYES-Category 1; SKIN-Category 1B; STOT SINGLE EXPOSURE-Category 3; ACUTE TOXICITY-Category 3 (Oral); ACUTE TOXICITY-Category 3 (Dermal); ACUTE TOXICITY-Category 3 (Inhaled) Vapors



Respiratory Tract Irritant



Acute Toxicity



Corrosive to Metals
Eye Damage
Skin Corrosion/Burns

DANGER! Causes severe skin burns and eye damage, Toxic in contact with skin, Toxic if inhaled, Toxic if swallowed, May cause respiratory irritation, Do not get in eyes, on skin, or clothing, and avoid inhalation of mist, Use proper Safety Equipment, Wash thoroughly with soap and water after handling

SECTION - 3 COMPOSITION INFORMATION

(Exact percentage of the listed chemicals of composition has been withheld as a trade secret)

CHEMICAL NAME	COMMON NAME AND SYNONYMS	CAS #	IMPURITIES	PERCENT
Ammonium Bifluoride	Ammonium Hydrogen Difluoride	1341-49-7		1 - 15%
Phosphoric Acid	Monophosphoric Acid, Orthophosphoric Acid	7664-38-2		1 - 6%
Oxalic Acid		144-62-7		1 - 5%

SECTION - 4 FIRST AID MEASURES

EYE CONTACT Immediately flush eyes with cold water for at least 15 minutes while lifting upper and lower eyelids, Remove contact lenses if present and easy to do without injury to the eye and continue rinsing, Administer calcium gluconate 1% solution if available, Obtain immediate medical attention, preferably from an ophthalmologist or Emergency Room

SKIN CONTACT Immediately wash contaminated skin with a nonabrasive soap and plenty of water for at least 15 minutes, Remove all contaminated clothing and use gloves to place in a plastic bag, If calcium gluconate gel is readily available, limit rinsing to 5 minutes so that application can be quickly initiated to limit the migration of the fluoride ion. Reapply and massage calcium gluconate gel into affected area of skin for 15 minutes, Immediate medical attention may be required. Consult with a physician, In all cases of skin exposure "Calcium Gluconate Gel" is recommended and should be applied as soon as possible

INHALATION Move person to fresh air, if they have problem breathing, show signs of overexposure or feel unwell obtain medical attention

INGESTION DO NOT INDUCE VOMITING. If person is fully conscious, rinse mouth out with water. Contact a physician or poison control center immediately. If vomiting occurs, keep head below hips to prevent aspiration into the lungs

Aspiration Hazard Not considered to be an aspiration hazard

ACUTE SYMPTOMS OF SINGLE OVEREXPOSURE

Eyes Causes serious eye damage, pain, corrosive burns, corneal injury, vision impairment

Skin Toxic in contact with skin, Can cause serious skin damage, ulcerations, or chemical burns, Effects may be delayed

Inhalation Toxic if inhaled, Mist, vapor or fumes may cause, irritation to respiratory tract

Ingestion Toxic if swallowed, Causes serious irritation, or possible corrosive burns, and may affect target organs, Ingestion may cause vomiting which may be harmful if it enters airways

CHRONIC SYMPTOMS OF PROLONGED OR REPEATED OVEREXPOSURE

Eyes Corrosive to eyes, Causes serious eye damage, severe pain, corrosive burns, corneal injury, partial or complete blindness

Skin Toxic in contact with skin, Causes serious skin damage, deep ulcerations, corrosive burns, and may affect target organs, through prolonged or repeated exposure, Toxic levels of, Hydrogen Fluoride, can be absorbed through the skin, Effects may be delayed

Inhalation Toxic if inhaled, Mist, vapor or fumes can cause, irritation to respiratory tract, through prolonged or repeated exposure, Effects may be delayed

Ingestion Toxic if swallowed, Causes corrosive burns, and can affect target organs, May cause lung damage if swallowed enters airways, Fatal levels of, Hydrogen Fluoride, can be ingested

SECTION – 5 FIRE FIGHTING MEASURES

Extinguishing Media	Not flammable: Use extinguishing media for surrounding fire
Hazardous Decomposition	Burning or thermal decomposition can produce, phosphorus oxides, carbon monoxide, carbon dioxide, sulfur dioxide
Reactive With	Reactive with, metals, strong oxidizing agents, strong bases, alkaline earth metals
Explosion Hazards	Not applicable
Static Discharge	Not applicable
Mechanical Impact	Not applicable
Protective Equipment	Use MSHA/NIOSH approved self-contained breathing apparatus and full protective gear

FLAMMABLE LIQUIDS HAZARD CLASSIFICATION	
Criteria	Flash point > 93.3°C (200°F)
NFPA Class	Class III B
GHS	Not applicable
WHMIS	Not applicable

NFPA HAZARD RATINGS	
Health	3
Flammability	0
Reactivity	0
Special Hazards	(HF)

SECTION – 6 ACCIDENTAL RELEASE MEASURES

Emergency Procedures	Warn personnel to move away and stay upwind from spill
Personal Precautions	Ventilate area, Avoid slipping on spilled product
Protective Equipment	Safety Glasses, Chemical Gloves, Approved Respirator, Chemical Apron and Rubber Boots
Containment	Use absorbent socks or pads to prevent spill from spreading, NOTE: Organic spill kits that contain Floor-Dri, kitty litter, or sand should NOT be used because Hydrogen Fluoride reacts with silica to produce silicon tetrafluoride, a toxic gas.
Clean Up Procedures	Neutralize spill with soda ash, lime, sodium bicarbonate, or a spill absorbent specified for Hydrogen Fluoride should be used for clean up With clean shovel, carefully place material into clean appropriate waste disposal unit. Flush spill area with water.
Disposal	Dispose of material in accordance with all State and Federal Guidelines and Regulations

SECTION – 7 HANDLING AND STORAGE

Handling	DANGER, Ammonium Hydrogen difluoride Solution (HF), Keep away from incompatible materials, Use appropriate safety equipment, and adequate ventilation, Avoid eye and skin contact, Toxic if absorbed through skin, Avoid inhalation of mist, May cause respiratory irritation, Toxic if inhaled, Toxic if swallowed, Do not smoke, eat or drink while using, Wash thoroughly after handling
Storage	KEEP OUT OF REACH OF CHILDREN, DO NOT CONTAMINATE WATER, FOOD OR FEED BY STORAGE OR DISPOSAL, Keep container closed when not in use, Store away from incompatible materials, Stored above 4.4°C (40°F) and below 49°C (120°F)
Incompatible Materials	Incompatible with, metals, strong oxidizing agents, strong bases, alkaline earth metals, organic materials

SECTION – 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS					Significant Exposure
CHEMICAL NAME	ACGIH (TWA 8)	ACGIH (STEL)	OSHA PEL (TWA 8)	OSHA (CEIL)	
Ammonium Bifluoride	(Fluoride) 2.5 mg/m ³		(Fluoride) 2.5 mg/m ³		
Oxalic Acid	1 mg/m ³	2 mg/m ³	1 mg/m ³	2 mg/m ³	
Phosphoric Acid	1 mg/m ³	3 mg/m ³	1 mg/m ³	3 mg/m ³	

PERSONAL PROTECTIVE EQUIPMENT



Chemical Safety Glasses, Goggles or Face Shield



Impervious Chemical Gloves



MSHA / NIOSH Approved Respirator At or Above Listed TLV's



Impervious Protective Clothing



Impervious Footwear



Eye Wash and Safety Shower (Recommended)



Ventilation

The safety equipment information supplied is for general use and may not insure complete safety for the user. Circumstances may require additional or more specific safety equipment

"Consulting with a Safety Equipment Supplier is recommended"

HMIS HAZARD RATINGS

Health	3
Flammability	0
Reactivity	0
Personal Protection	H

SECTION – 9 PHYSICAL AND CHEMICAL PROPERTIES

Flash Point	Not Flammable	Specific Gravity / Relative Density	1.127
Flammable Limits	ND	Molecular Weight	35.10
Auto-Ignition Temp.	ND	Initial Boiling Point	ND
Physical State	Liquid	Boiling Range	ND
Appearance	Clear	Vapor Pressure	ND
Odor	Mild	Vapor Density	ND
Odor Threshold	ND	Freeze Point	ND
Solubility	100%	Melting Point	ND
Volatiles	< 80%	Partition Coefficient	ND
VOC	< 7%	Decomposition Temperature	ND
pH (± 0.3)	ND	Evaporation Rate	ND

SECTION – 10 STABILITY AND REACTIVITY

Reactivity (Specific Test Data)	None available
Chemical Stability	Stable when stored below 49°C (120°F)
Hazardous Polymerization	Will not occur
Conditions To Avoid	Incompatible materials
Incompatible Materials	Incompatible with, oxidizing agents, reducing agents, bases, metals, ammonia, chlorine, alcohols, organic peroxides, ketones, alkaline earth metals, bleach, organic materials
Thermal Decomposition	Burning or thermal decomposition can produce, sulfur oxides, phosphorus oxides, aldehydes, carbon monoxide, carbon dioxide, nitrogen oxides, hydrogen fluoride, sulfur dioxide, ketones, organic acids, and other toxic fumes

SECTION – 11 TOXICOLOGICAL INFORMATION**ROUTES OF EXPOSURE**

Eyes (Yes), Skin (Yes), Ingestion (Yes), Inhalation (Yes "Mist, Vapor or Fumes")

ACUTE SYMPTOMS OF SINGLE OVEREXPOSURE

Eyes	Causes serious eye damage, pain, corrosive burns, corneal injury, vision impairment
Skin	Toxic in contact with skin, Can cause serious skin damage, ulcerations, or chemical burns, Effects may be delayed
Inhalation	Toxic if inhaled, Mist, vapor or fumes may cause, irritation to respiratory tract
Ingestion	Toxic if swallowed, Causes serious irritation, or possible corrosive burns, and may affect target organs, Ingestion may cause vomiting which may be harmful if it enters airways

CHRONIC SYMPTOMS OF PROLONGED OR REPEATED OVEREXPOSURE

Eyes	Corrosive to eyes, Causes serious eye damage, severe pain, corrosive burns, corneal injury, partial or complete blindness
Skin	Toxic in contact with skin, Causes serious skin damage, deep ulcerations, corrosive burns, and may affect target organs, through prolonged or repeated exposure, Toxic levels of, Hydrogen Fluoride, can be absorbed through the skin, Effects may be delayed
Inhalation	Toxic if inhaled, Mist, vapor or fumes can cause, irritation to respiratory tract, through prolonged or repeated exposure, Effects may be delayed
Ingestion	Toxic if swallowed, Causes corrosive burns, and can affect target organs, May cause lung damage if swallowed enters airways, Fatal levels of, Hydrogen Fluoride, can be ingested

Acute Tox Calculated **Oral:** 80 mg/kg **Dermal:** 568 mg/kg **Inhaled:** 7.9 mg/L

Acute Tox Category Category 3 (Oral >50, ≤300 mg/kg), Category 3 (Dermal >200, ≤1000 mg/kg), Category 3 (Inhaled >2, ≤10 mg/L) Vapors

Additional Info Overexposure symptoms may include, burning of the mouth and throat, blurred vision, burning, pain, tissue damage, inflammation, erythema (inflammation or infection of the skin), black nail, nausea, vomiting, diarrhea, abdominal pain, Effects may be delayed

Target Organs Blood, Kidneys, Liver, Respiratory Tract, Eyes (Lens or cornea), Lungs, Skin, Central Nervous System, Tooth Enamel Erosion, Skeleton, Thyroid Gland

Medical Conditions Preexisting, eye, skin, liver, kidney, central nervous system, blood, respiratory, thyroid, disorders may be aggravated by exposure to this product

Notes to Physician A dose of about 1 gram can cause nausea, burning sensation, sores in the mouth, throat and digestive tract. Ingestion of two to five grams can cause tremors, convulsions, shock and possible death, Skin exposures of HF can be treated with a 2.5% calcium gluconate gel repeated until burning ceases, Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims

SECTION – 11 TOXICOLOGICAL INFORMATION CONTINUED**CARCINOGENIC – This product contains concentrations above 0.1% of the following:**

<u>CHEMICAL NAME</u>	<u>NTP</u>	<u>ACGIH</u>	<u>IARC</u>	<u>GHS Category</u>
None Listed				

MUTAGENIC AND REPRODUCTIVE EFFECTS – May cause fetal and reproductive abnormalities.

<u>CHEMICAL NAME</u>	<u>Germ Cell Mutagenicity</u>	<u>Toxic to Reproduction</u>
None Listed		

COMPONENTS ACUTE TOXICITY

<u>CHEMICAL NAME</u>	<u>Type</u>	<u>Form</u>	<u>Subject</u>	<u>Result Value</u>	<u>Exposure Time</u>	<u>GHS Category</u>
Phosphoric Acid	LD50	Oral	Rat	1,530 mg/kg		4 (>300, ≤2000 mg/kg)
	LD50	Dermal	Rabbit	2,740 mg/kg		(>2000 mg/kg)
Ammonium Bifluoride	LD50	Oral	Rat	60 mg/kg		3 (>50, ≤300 mg/kg)
Oxalic Acid	LD50	Oral	Rat	1,080 mg/kg		4 (>300, ≤2000 mg/kg)
	LD50	Dermal	Rabbit	20,000 mg/kg		(>2000 mg/kg)

SECTION – 12 ECOLOGICAL INFORMATION

<u>CHEMICAL NAME</u>	<u>Type</u>	<u>Subject</u>	<u>Subject Latin</u>	<u>Result Value</u>	<u>Exposure Time</u>	<u>GHS Category</u>
Phosphoric Acid	LC50	Mosquito Fish	(Gambusia affinis)	138 mg/L	96 Hours	3 (>10, ≤100 mg/L)
Ammonium Bifluoride	LC50	Fathead Minnow	(Pimephales promelas)	438 mg/L	48 Hours	4 (>100 mg/L)
	LC50	Water Flea	(Daphnia magna)	202 mg/L	24 Hours	4 (>100 mg/L)
Oxalic Acid	LC50	Orfe	(Leuciscus idus melanotus)	160 mg/L	48 Hours	4 (>100 mg/L)
	EC50	Water Flea	(Daphnia magna)	162.2 mg/L	48 Hours	4 (>100 mg/L)

Presistence And Degradability Phosphates may persist in the environment

Bioaccumulative Potential Has potential to bioaccumulate

Mobility In Soil This material is a mobile liquid

Other Adverse Effects Toxic to aquatic life

SECTION – 13 DISPOSAL CONSIDERATIONS**DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER**

Dispose of any waste in accordance with all State and Federal Guidelines and Regulations

ENVIRONMENTAL FATE

This material as supplied, when discarded or disposed of, is a hazardous waste according to Federal Regulations (40 CFR 261) due to its ignitability and due to the composition containing in some or all of its components.

Under RCRA rules, it is the responsibility of the user of the product to determine, at the time of disposal, whether the material is a hazardous waste.

The transportation, storage, treatment and disposal of RCRA waster material must be conducted in compliance with 40 CFR 262, 263, 264 and 270. Disposal can only occur in properly permitted facilities.

Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate, or otherwise inappropriate.

SECTION – 14 TRANSPORT INFORMATION**D.O.T. CLASSIFICATION**

<u>UN Number</u>	<u>Proper Shipping Name</u>	<u>n.o.s. (Chemicals) or "Limits"</u>
UN 2817	Ammonium Hydrogen difluoride, Solutions	

<u>Hazard Class</u>	<u>Packing Group</u>	<u>Label Codes</u>	<u>Reportable Quantity (lbs)</u>	<u>Response Code</u>	<u>Marine Pollutant</u>
8, 6.1	II	Corrosive Liquids, Toxic	100	154	No

<u>Placard Label</u>	<u>Hazard Label</u>	<u>Secondary</u>	
			-
			.



SECTION – 15 REGULATORY INFORMATION**TSCA**

CHEMICAL NAME	Sec 8(b) Inventory	Sec 8(d) Health And Safety	Sec 4(a) Chemical Test Rules	Sec 12(b) Export Notification
Ammonium Bifluoride	Yes	Yes		
Oxalic Acid	Yes			
Phosphoric Acid	Yes	Yes		

REPORTABLE QUANTITIES

CHEMICAL NAME	Extremely Hazardous		Reportable Quantity	Emission Reporting	RCRA Code	RMP TQ Sec 112r
	EPCRA TPQ Sec 302	EPCRA RQ Sec 304	CERCLA RQ Sec 103	TRI Sec 313		
Phosphoric Acid			5000			
Ammonium Bifluoride			100	Yes		

SARA**Section 311****Section 311 / 312 Hazards**

CHEMICAL NAME	Hazardous Chemical	Acute	Chronic	Flammable	Pressure	Reactive
Ammonium Bifluoride	Yes	Yes	Yes			
Oxalic Acid	Yes	Yes	Yes			
Phosphoric Acid	Yes	Yes	Yes			

RIGHT TO KNOW

CHEMICAL NAME	STATE												
	CA	CT	FL	IL	LA	NJ	NY	PA	MI	MN	MA	RI	WI
Ammonium Bifluoride	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	
Oxalic Acid						Yes		Yes			Yes		
Phosphoric Acid	Yes			Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes	

CALIFORNIA**WARNING! This product contains chemicals known to the state of California to cause:**

CHEMICAL NAME	CAS #	Birth Defects	Reproductive Harm	Carcinogen	Developmental
None Listed					

CLEAN AIR WATER ACTS

CHEMICAL NAME	CAS #	Clean Air Acts			Clean Water Acts		
		HAP	Ozone Class 1	Ozone Class 2	HS	PP	TP
None Listed							

INTERNATIONAL REGULATIONS – The components of this product are listed on the chemical inventories of the following countries:

CHEMICAL NAME	Australia	Canada	Europe (EINECS)	Japan	Korea	UK
Ammonium Bifluoride	Yes	Yes	Yes	Yes	Yes	Yes
Phosphoric Acid	Yes	Yes	Yes	Yes	Yes	Yes

WHMIS Classification

CHEMICAL NAME	DSL	Class Description
Ammonium Hydrogendifluoride Solution	Yes	E Corrosive Material D-2B Materials Causing Other Toxic Effects; Toxic Material

SECTION – 16 OTHER INFORMATION**Standard Risk And Safety Phrases**

Code	Definition (R-Phrases / S-Phrases)
R23/24/25	Toxic by inhalation, in contact with skin and if swallowed
R35	Causes severe burns
R41	Risk of serious damage to eyes
R51	Toxic to aquatic organisms
S9	Keep container in a well-ventilated place
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S27	Take off immediately all contaminated clothing
S38	In case of insufficient ventilation wear suitable respiratory equipment
S61	Avoid release to the environment
S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label where possible
S1/2	Keep locked up and out of the reach of children
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection

SDS LEGEND DESCRIPTION

ACGIH	American Conference of Governmental Industrial Hygienists	LC50	A concentration that is lethal to 50% of a given species in a given time
CAS	Chemical Abstracts Service Registry	LD50	Dose that is lethal to 50% of a given species by a given route of exposure
CEIL	Ceiling Limit (15 minutes)	LEL	Lower Explosive Limit
CERCL	Comprehensive Environmental Response, Compensation, and Liability Act	LD	Liver Damage
CI	Cochlear Impairment	NA	Not Applicable
CNS	Central Nervous System	ND	Not Determined
EC50	Concentration of a chemical that gives half-maximal response	NFPA	National Fire Protection Association
EPA	Environmental Protection Agency	NIOSH	National Institute for Occupational Safety and Health
Eye	(EI = Irritation) (ED = Damage) (EV = Visual Impairment)	NE	Not Established
FBG	Full Bunker Gear	NTP	National Toxicology Program
GHS	Globally Harmonized System	OSHA	Occupational Safety and Health Administration
HAP	California Hazardous air pollutant Clean Air Act	PEL	Permissible Exposure Limit (OSHA)
HMIS-A	Safety Glasses	PNS	Peripheral Nervous System
HMIS-B	Safety glasses, gloves	PP	California Priority Pollutant under the Clean Water Act
HMIS-C	Safety glasses, gloves, chemical apron	REL	Recommended exposure limit (NIOSH)
HMIS-D	Face shield, gloves, chemical apron	RT	Upper Respiratory Tract
HMIS-E	Safety glasses, gloves, dust respirator	Skin	(SI = Irritation) (SD = Damage) (SA = Absorption) (SS = Sensitizer)
HMIS-F	Safety glasses, gloves, chemical apron, dust respirator	SARA	Superfund Amendments and Reauthorization Act
HMIS-G	Safety glasses, gloves, vapor respirator	STEL	Short Term Exposure Limit (15 minutes)
HMIS-H	Splash goggles, gloves, chemical apron, vapor respirator	TC Lo	Air concentration that is lethal to 50% of a given species in a given time
HMIS-I	Safety glasses, gloves, dust and vapor respirator	TD Lo	Lowest dose that is toxic to a given species
HMIS-J	Splash goggles, gloves, chemical apron, dust and vapor respirator	TLV	Threshold Limit Value (ACGIH)
HMIS-K	Air line hood or mask, gloves, full chemical suit, boots	TP	California Toxic Pollutant under the Clean Water Act
HMIS-X	Ask Supervisor	TSCA	Toxic Substances Control Act
HS	California Hazardous Substance under the Clean Water Act	TWA	Time Weighted Average (8 hours)
KD	Kidney Damage (nephropathy)	UEL	Upper Explosive Limit

Delux® Inc.

and nCites, L.L.C. have compiled the information herein from sources believed to be reliable and up-to-date, and is accurate to the best of our knowledge. However, we cannot give any guarantees regarding information from other sources or the completeness and expressly do not make warranties, nor assume any liability for its use. The information contained herein is provided for reference purposes only and is intended only for persons having relevant technical skills. Because conditions and manner of use are outside of our control, the user is responsible for determining the conditions of safe use of the product. Buyers and users assume all risk, responsibility and liability whatsoever for any and all injuries, losses, or damages to persons or property arising from the use of this product or information.

Supersedes Safety Data Sheet Dated