

## Hydrofluoric/Nitric Acid Blend, Deslag Solution

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Hydrofluoric/Nitric Acid Blend, Deslag Solution

**Synonyms/Generic Names:** None

**Product Number:** 2651

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**Hazard Not Otherwise Classified (HNOC):** None

**Signal Words:** Danger

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 2
Acute toxicity, Inhalation	Category 2
Acute toxicity, Dermal	Category 1
Skin corrosion	Category 1A
Serious eye damage	Category 1

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H300+H310	Fatal if swallowed or in contact with skin.
H314	Causes severe skin burns and eye damage.
H330	Fatal if inhaled.

**Precautionary Statements:**

P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P262	do not get in eyes, on skin, or on clothing.

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	In case of inadequate ventilation, wear respiratory protection.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do not induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER/doctor/physician.
P321	Specific treatment is urgent (see first aid instruction on this label).
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes severe eye burns.
<b>Inhalation</b>	Toxic if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
<b>Skin</b>	May be fatal if absorbed through skin. Causes skin burns.
<b>Ingestion</b>	May be fatal if swallowed.

**NFPA Ratings**

<b>Health</b>	3
<b>Flammability</b>	0
<b>Reactivity</b>	1
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	3
<b>Fire</b>	0
<b>Reactivity</b>	1

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Hydrofluoric Acid	11-13.5	7664-39-3	231-634-8	HF	20.01 g/mol
Nitric Acid	7-9.5	7697-37-2	231-714-2	HNO <sub>3</sub>	63.01 g/mol
Water	Balance	7732-18-5	231-791-2	H <sub>2</sub> O	18.00 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	In case of eye contact, rinse with plenty of water and seek medical attention immediately. Cold water may be used. Keep the eyelids apart and away from the eyeballs during irrigation. Do not use oily drops or ointment or HF skin burn treatments on the eyes. Get medical attention immediately, preferably an eye specialist. Place ice pack on eyes until reaching emergency room.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while

	removing contaminated clothing and shoes. Cold water may be used. Material is absorbed through the skin. Get medical attention immediately. While waiting for medical attention, it has been shown that flushing the affected area with water for one minute and then massaging HF Antidote Gel into the wound until there is a cessation of pain is a most effective first aid treatment. HF Antidote Gel contains Calcium Gluconate which combines with HF for insoluble Calcium Fluoride, thus preventing the extraction of calcium from the body tissue and bones. Another alternative first aid treatment, after thorough washing of the burned area, is to immerse the burned area in a solution of 0.2% iced aqueous Hyamine 1622 or 0.13% iced aqueous Zephiran Chloride. If immersion is impractical, towels could be soaked with one of the above solutions and used as compresses for the burn area. Hyamine 1622 is a trade name for Tetracaine Benzethonium Chloride. Zephiran is a trade name for Benzalkonium Chloride.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention immediately.

## 5. FIRE-FIGHTING MEASURES

<b>Suitable (and unsuitable) extinguishing media</b>	Product is not flammable. Use appropriate media for adjacent fire. Cool containers with water, keep away from common metals.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots. Material can react violently with water (spattering and misting) and react with metals to produce flammable hydrogen gas.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (hydrogen fluoride gas, nitrogen oxides) under fire conditions. May emit flammable hydrogen gas when in contact with metals. (See also Stability and Reactivity section)

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.
<b>Methods and materials for containment and cleaning up</b>	Neutralize spill with sodium bicarbonate or lime. Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

### Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Hydrofluoric Acid	0.5 ppm 0.41 mg/m <sup>3</sup>	TLV	ACGIH
	2 ppm 1.64 mg/m <sup>3</sup>	CEIL	ACGIH
	3 ppm	PEL	OSHA
	3 ppm 2.5 mg/m <sup>3</sup>	REL	NIOSH
	6 ppm 5 mg/m <sup>3</sup>	CEIL	NIOSH
	30 ppm	IDLH	USA OSHA
Nitric Acid	2 ppm 5.2 mg/m <sup>3</sup>	TLV	ACGIH
	4 ppm 10 mg/m <sup>3</sup>	STEL	ACGIH
	2 ppm 5 mg/m <sup>3</sup>	PEL	OSHA
	2 ppm 5 mg/m <sup>3</sup>	REL	NIOSH
	4 ppm 10 mg/m <sup>3</sup>	STEL	NIOSH
	25 ppm	IDLH	OSHA

TWA: Time Weighted Average over 8 hours of work.

TLV: Threshold Limit Value over 8 hours of work.

REL: Recommended Exposure Limit

PEL: Permissible Exposure Limit

STEL: Short Term Exposure Limit during x minutes.

IDLH: Immediately Dangerous to Life or Health

WEEL: Workplace Environmental Exposure Levels

CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses with a face shield for splash protection.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear neoprene or nitrile gloves, full body (synthetic) protective clothing appropriate to the risk of exposure.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling. Have supplies and equipment for neutralization and running water available. HF antidote gel for skin burns or other solutions discussed in Section 4, First Aid.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Clear, colorless to yellow liquid
Odor	Acrid, suffocating odor
Odor threshold	0.5 - 3 ppm
pH	1
Melting point/freezing point	Not Available

Initial boiling point and boiling range	Not Available
Flash point	Not Flammable
Evaporation rate	Not Available
Flammability (solid, gas)	Not Flammable
Upper/lower flammability or explosive limit	Not Explosive
Vapor pressure	Not Available
Vapor density	Not Available
Relative density	Not Available
Solubility (ies)	Completely soluble in water
Partition coefficient: n-octanol/water	Not Available
Auto-ignition temperature	Not Available
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Uncontrolled addition of water.
<b>Incompatible Materials</b>	Moisture, bases, organic material, metals, glass, ceramics, aluminum, stainless steel, carbonates, cyanides, sulfides. Reacts violently with acetic anhydride, ammonium hydroxide, arsenic trioxide, calcium oxide, potassium permanganate, sodium, sodium hydroxide, sulfuric acid.
<b>Hazardous Decomposition Products</b>	Hydrogen fluoride gas, nitrogen oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Hydrofluoric Acid

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC50- rat- 1 hour: 2240-2340 ppm
<b>Ingestion</b>	LD100- guinea pig- 80 mg/kg

#### Nitric Acid

<b>Skin</b>	Not Available
<b>Eyes</b>	Not Available
<b>Respiratory</b>	LC <sub>50</sub> (rat) 1 hour: 7 mg/kg
<b>Ingestion</b>	LD <sub>Lo</sub> (human): 430 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Eyes</b>	Burns, pain, watering eyes.
<b>Inhalation</b>	Burning, choking, coughing, wheezing, laryngitis, shortness of breath, headache or nausea.
<b>Skin</b>	Burning, irritation

<b>Ingestion</b>	Severe and rapid corrosive burns of the mouth, gullet and gastrointestinal tract, burning, choking, nausea, vomiting and severe pain.
<b>Chronic Toxicity</b>	May cause Fluorosis or hypocalcaemia
<b>Teratogenicity</b>	Fetotoxicity (e.g., stunted fetus)
<b>Mutagenicity</b>	May cause genetic effects based on animal data.
<b>Embryotoxicity</b>	May cause fetal toxicity based on animal data.
<b>Target Organ(s)</b>	Liver, Kidney, Lungs, Teeth, Cardiovascular system
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

## 12. ECOLOGICAL INFORMATION

### Ecotoxicity

#### Hydrofluoric Acid

<b>Aquatic Vertebrate</b>	Aquatic fish; EC50 (48 hours): 270 mg/l
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

#### Nitric Acid

<b>Aquatic Vertebrate</b>	Aquatic fish; LC50 (96 hrs): 72 mg/l (Gambusia affinis)
<b>Aquatic Invertebrate</b>	Not Available
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Not Available
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Product or Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

## 14. TRANSPORTATION INFORMATION

US DOT	UN2922, Corrosive liquids, toxic, n.o.s., (hydrofluoric acid and nitric acid), 8, (6.1), pg II
TDG	UN2922, CORROSIVE LIQUIDS, TOXIC, N.O.S., (HYDROFLUORIC ACID AND NITRIC ACID), 8, (6.1), PG II
IMDG	UN2922, CORROSIVE LIQUIDS, TOXIC, N.O.S., (HYDROFLUORIC ACID AND NITRIC ACID), 8, (6.1), PG II
Marine Pollutant	No
IATA/ICAO	UN2922, Corrosive liquids, toxic, n.o.s., (hydrofluoric acid and nitric acid), 8, (6.1), pg II

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**15. REGULATORY INFORMATION**

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TSCA Inventory Status	All ingredients are listed on the TSCA Active inventory.
DSL / NDSL	All ingredients are listed on the DSL inventory.
California Proposition 65	Not Listed
Rhode Island: Hazardous Substance List	Listed: Nitric Acid, Hydrofluoric Acid
Massachusetts: Toxic or Hazardous Substance List, Right to Know	Listed: Nitric Acid, Hydrofluoric Acid
Pennsylvania: Hazardous Substance List	Listed: Nitric Acid, Hydrofluoric Acid
New Jersey: Right to Know Hazardous Substance List	Listed: Nitric Acid, Hydrofluoric Acid
SARA 302	Listed: Nitric Acid, Hydrofluoric Acid
SARA 304	Listed: Nitric Acid, Hydrofluoric Acid
SARA 311	Acute Health Hazard.
SARA 312	Acute Health Hazard.
SARA 313	Listed: Nitric Acid, Hydrofluoric Acid
WHMIS Canada	Class C: Oxidizing material. Class D1A: Poisonous and infectious material – Immediate and serious effects – Very toxic. Class D2A: Poisonous and infectious material – Other effects – Very toxic. Class E: Corrosive material.

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**16. OTHER INFORMATION**

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Revision	Date
Original	08/17/2011
Revision 1	10/16/2013
Revision 2	08/07/2015
Revision 3	11/27/2017
Revision 4	01/10/2022

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