

H-501, H-505, H-555 Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Revision date: 07/26/2018 Supersedes: 05/08/2015

SECTION 1: Identification 1.1. Identification Product form : Mixture Trade name Hydro-Foam Concentrate : H-501, H-505, H-555 Product code Recommended use and restrictions on use 1.2. Recommended use : Condenser coil cleaner Restrictions on use : Do not use on evaporator coils. Outdoor use only. 1.3. Supplier Distributor Manufacturer Hydro-Balance Corporation North American Research Corporation Lewisville, TX - USA 519 Huffines Blvd., Lewisville, TX 75056 T 972-394-9422, 800-527-5166 - F 972-394-6755 P.O. Box 1318, Lewisville, TX 75067 Info@HydroBalance.com - www.HydroBalance.com - USA T 972-492-1800, 800-527-7520 - F 972-394-6755 Info@narcochem.com - www.narcochem.com 1.4. **Emergency telephone number** Emergency number

: For Chemical Emergency Call Infotrac 24hr/day 7days/week Within USA and Canada: 1-800-535-5053 Outside USA and Canada: 1-352-323-3500

SECTION 2: Hazard(s) identification

Classification of the substance or mixture 2.1.

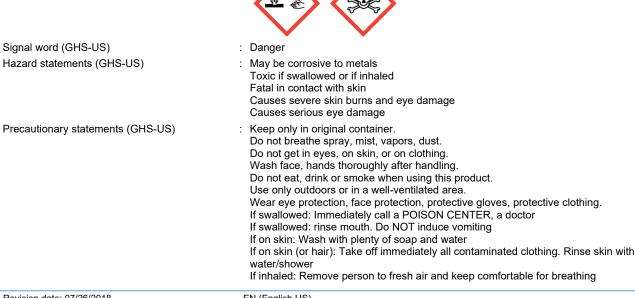
GHS-US classification

Corrosive to metals Category 1	May be corrosive to metals
Acute toxicity (oral) Category 3	Toxic if swallowed
Acute toxicity (dermal) Category 2	Fatal in contact with skin
Acute toxicity (inhalation:dust,mist) Category 3	Toxic if inhaled
Skin corrosion/irritation Category 1A	Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	Causes serious eye damage

2.2. GHS Label elements, incl	uding precautionary statements
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GHS-US labeling

Hazard pictograms (GHS-US)



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Wash contaminated clothing before reuse. Absorb spillage to prevent material-damage. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local, regional, national and international regulations	a Ir S F T V S S S S S S S S S S S S S S S S S S	Absorb spillage to prevent material-damage. Store in a well-ventilated place. Keep container tightly closed. Store locked up. Dispose of contents/container in accordance with local, regional, national and international
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2.3.	3. Other hazards which do not result in classification		
Other ha	azards not contributing to the cation	: Causes severe burns which may not be immediately painful or visible. May cause hypocalcemia (depletion of calcium in the body) which may be fatal. Specialized medical treatment is required for all exposures. Mix with water only. Do not mix with other chemicals. On contact with ordinary metals (steel, galvanized, aluminum) corrosion may occur and generate highly flammable hydrogen gas.	
2.4.	Unknown acute toxicity (GHS US)		
N1 - 4	Real L		

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. **Mixtures**

Name	Product identifier	%	GHS-US classification
hydrofluoric acid	(CAS-No.) 7664-39-3	8 - 10	Met. Corr. 1, H290 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1A, H314 Eye Dam. 1, H318 Aquatic Acute 3, H402
Phosphoric acid	(CAS-No.) 7664-38-2	5 - 8	Met. Corr. 1, H290 Skin Corr. 1B, H314 Eye Dam. 1, H318

If the specific chemical identity and/or exact percentage of an ingredient is not specified, the information has been withheld as a trade secret. Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Call a physician immediately.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Take medical advice.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Call a physician immediately. Rinse skin with water/shower.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Rinse mouth. Call a physician immediately. Do NOT induce vomiting.
4.2. Most important symptoms and effect	s (acute and delayed)
Symptoms/effects after inhalation	: Remove to fresh air. Keep patient warm and at rest. Get competent medical attention immediately. If breathing has stopped, start artificial respiration at once. An authorized person should administer oxygen to a victim who is having difficulty breathing, until the victim is able to breathe easily by himself. Calcium gluconate, 2.5% in normal saline may be given by nebulizer with oxygen. Do not give stimulants unless instructed to do so by a physician. Victim should be examined by a physician and held under observation for at least 24 hours.

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Symptoms/effects after skin contact	: Burns. Remove the victim from the contaminated area and immediately wash the burned area with plenty of water for a minimum of 15 minutes. Limit washing to 5 minutes if treatment specific for HF exposure is available. Remove all contaminated clothing while washing continuously. After thorough washing for at least 5 minutes, the burned area should be immersed in a solution of 0.13% iced aqueous Benzalkonium Chloride until pain is relieved. As an alternate first aid treatment, 2.5% calcium gluconate gel may be continuously massaged into the burn area until the pain is relieved. For burns not responsive to topical treatment (as measured by pain being present for longer than 30 minutes) a physician may inject 2.5% - 5% aqueous calcium gluconate beneath, around and in the burned area. Use of local anesthetics is not recommended, as reduction in pain is an indicator of effectiveness of treatment.
Symptoms/effects after eye contact	: Serious damage to eyes. Immediately flush the eyes for at least 15 minutes with large amounts of gently flowing water. Hold the eyelids open and away from the eye during irrigation to allow thorough flushing of the eyes. Do not use the benzalkonium chloride (Zephiran) solutions described for skin treatment. If the person is wearing contact lenses, the lenses should be removed, if possible. However, flushing with water should not be interrupted, and the lenses should be removed by a person who is qualified to do so. If sterile 1% calcium gluconate solution is available, water washing may be limited to 5 minutes, after which the 1% calcium gluconate solution should be used to irrigate the eye using a syringe or a continuous irrigation device. Take the victim to a doctor, preferably an eye specialist, as soon as possible. Ice water compresses may be applied to the eyes while transporting the victim to the doctor. If a physician is not immediately available, apply one or two drops of 0.5% tetracaine hydrochloride, 0.5% proparacaine, or other aqueous, topical ophthalmic anesthetic and continue irrigation. Use no other medications unless instructed to do so by a physician. Rubbing of the eyes is to be avoided.
Symptoms/effects after ingestion	: Burns. Have the victim drink several large glasses of water or milk to dilute the acid. Do not induce vomiting. Do not give emetics or baking soda. Never give anything by mouth to an unconscious person. Give several glasses of milk or several ounces of milk of magnesia, any calcium containing antacid or grind up and administer up to 30 antacid tablets with water. The calcium or magnesium in these compounds may act as an antidote; however this has not been supported in the literature. Get immediate medical attention. Ingestion of HF is a life-threatening emergency.
Most Important Symptoms/Effects	: Causes severe burns which may not be immediately painful or visible. May cause hypocalcemia (depletion of calcium in the body) which may be fatal. Specialized medical treatment is required for all exposures.

4.3. Immediate medical attention and special treatment, if necessary

Specific treatment with calcium gluconate by authorized personnel required. For large skin area burns (totaling greater than 25 square inches), for ingestion and for significant inhalation exposure, severe systemic effects may occur. Monitor and correct for hypocalcemia, cardiac arrhythmias, hypomagnesemia and hyperkalemia. In some cases hemodialysis may be indicated. For certain burns, especially of the digits, use of intra-arterial calcium gluconate may be indicated. For inhalation exposures, treat as chemical pneumonia. Monitor for hypocalcemia. 2.5% calcium gluconate in normal saline by nebulizer or by intermittent positive pressure breathing with 100% oxygen may decrease pulmonary damage. Bronchodilators may also be administered. A booklet titled "Recommended Medical Treatment for Hydrofluoric Acid Exposure" is available from the Honeywell HF website: http://www.HFacid.com.

5.1.	Suitable (and unsuitable) exting	uishing media	
	e extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.	
5.2.	Specific hazards arising from the chemical		
Reactiv	vity	: The product is non-reactive under normal conditions of use, storage and transport.	
5.3.	Special protective equipment an	d precautions for fire-fighters	
Firefigh	ting instructions	: Use extinguishing media appropriate for surrounding fire.	
Protect	ion during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.	
SECT	ION 6: Accidental release m	easures	
6.1.	Personal precautions, protective	equipment and emergency procedures	
6.1.1.	For non-emergency personnel		
Emerge	ency procedures	: Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust, mist, spray, vapors.	
6.1.2.	For emergency responders		
Protect	ive equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".	
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6.2.	6.2. Environmental precautions				
Avoid r	Avoid release to the environment.				
6.3.	6.3. Methods and material for containment and cleaning up				
Method	ls for cleaning up	: Take up liquid spill into absorbent material.			
Other in	nformation	: Dispose of materials or solid residues at an authorized site.			
6.4.	Reference to other sections				
For furt	her information refer to section 13.				
SECT	ION 7: Handling and storage				
7.1.	Precautions for safe handling				
Precau	tions for safe handling	Do not get in eyes, on skin, or on clothing. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Do not breathe dust, mist, spray, vapors. For commercial and industrial use only by professionals trained in the field of HVACR. Do not spray on electrical connections.			
Hygien	e measures	: Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.			
7.2.	Conditions for safe storage, includi	ng any incompatibilities			
Storage	e conditions	: Keep out of reach of children. Store locked up. Keep container tightly closed. Keep only in original container. Store in a well-ventilated place. Tip: For storage on service truck, place container inside of plastic pail and immobilize pail.			
Incomp	atible materials	: Metals.			

SECTION 8: Exposure controls/personal protection

Control parameters

Phosphoric acid (7664-38-2)			
ACGIH	Local name	Phosphoric acid	
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³	
ACGIH	ACGIH STEL (mg/m ³)	3 mg/m ³	
ACGIH	Remark (ACGIH)	URT, eye, & skin irr	
ACGIH	Regulatory reference	ACGIH 2018	
OSHA	OSHA PEL (TWA) (mg/m³)	1 mg/m ³	
OSHA	Regulatory reference (US-OSHA)	OSHA	
hydrofluoric acid (7664-39-3)			
ACGIH	Local name	Hydrogen fluoride , as F	
ACGIH	ACGIH TWA (ppm)	0.5 ppm	
ACGIH	ACGIH Ceiling (ppm)	2 ppm	
ACGIH	Remark (ACGIH)	URT, LRT, skin, & eye irr	
ACGIH	Regulatory reference	ACGIH 2018	
OSHA	Remark (OSHA)	(2) See Table Z-2.	
OSHA	Regulatory reference (US-OSHA)	OSHA	

8.2. Appropriate engineering controls

Appropriate engineering controls

: Ensure good ventilation of the work station.

Environmental exposure controls

: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:

8.1.

Protective gloves

Eye protection:

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Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9: Physical and chemical properties

9.1. Information on basic physical and	chemical properties
Physical state	: Liquid
Color	: red pink
Odor	: Pungent.
Odor threshold	: No data available
рН	: 1
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1.08
Solubility	: Water: 100 %
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity			
10.1.	Reactivity		
The pro	The product is non-reactive under normal conditions of use, storage and transport.		
10.2.	Chemical stability		
Stable under normal conditions.			
10.3.	Possibility of hazardous reactions		

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

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10.5. Incompatible materials

Strong bases. On contact with ordinary metals (steel, galvanized, aluminum) corrosion may occur and generate highly flammable hydrogen gas. Oxidizing agent.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological informati	on
11.1. Information on toxicological effects	
Acute toxicity (oral)	: Oral: Toxic if swallowed.
Acute toxicity (dermal)	: Dermal: Fatal in contact with skin.
Acute toxicity (inhalation)	: Inhalation:dust,mist: Toxic if inhaled.
ATE US (oral)	51.282 mg/kg body weight
ATE US (dermal)	51.282 mg/kg body weight
ATE US (dust, mist)	0.513 mg/l/4h
hydrofluoric acid (7664-39-3)	
LC50 inhalation rat (ppm)	2240 - 2340 ppm (Equivalent or similar to OECD 403, 1 h, Rat, Male, Experimental value, Inhalation (gases), 14 day(s))
ATE US (oral)	5 mg/kg body weight
ATE US (dermal)	5 mg/kg body weight
ATE US (gases)	100 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h
Skin corrosion/irritation	: Causes severe skin burns and eye damage.
	pH: 1
Serious eye damage/irritation	: Causes serious eye damage.
	pH: 1
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: Not classified
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Symptoms/effects after inhalation	: Remove to fresh air. Keep patient warm and at rest. Get competent medical attention immediately. If breathing has stopped, start artificial respiration at once. An authorized person should administer oxygen to a victim who is having difficulty breathing, until the victim is able to breathe easily by himself. Calcium gluconate, 2.5% in normal saline may be given by nebulizer with oxygen. Do not give stimulants unless instructed to do so by a physician. Victim should be examined by a physician and held under observation for at least 24 hours.
Symptoms/effects after skin contact	: Burns. Remove the victim from the contaminated area and immediately wash the burned area with plenty of water for a minimum of 15 minutes. Limit washing to 5 minutes if treatment specific for HF exposure is available. Remove all contaminated clothing while washing continuously. After thorough washing for at least 5 minutes, the burned area should be immersed in a solution of 0.13% iced aqueous Benzalkonium Chloride until pain is relieved. As an alternate first aid treatment, 2.5% calcium gluconate gel may be continuously massaged into the burn area until the pain is relieved. For burns not responsive to topical treatment (as measured by pain being present for longer than 30 minutes) a physician may inject 2.5% - 5% aqueous calcium gluconate beneath, around and in the burned area. Use of local anesthetics is not recommended, as reduction in pain is an indicator of effectiveness of treatment.

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Symptoms/effects after eye contact	Serious damage to eyes. Immediately flush the eyes for at least 15 minutes with large amounts of gently flowing water. Hold the eyelids open and away from the eye during irrigation to allow thorough flushing of the eyes. Do not use the benzalkonium chloride (Zephiran) solutions described for skin treatment. If the person is wearing contact lenses, the lenses should be removed, if possible. However, flushing with water should not be interrupted, and the lenses should be removed by a person who is qualified to do so. If sterile 1% calcium gluconate solution is available, water washing may be limited to 5 minutes, after which the 1% calcium gluconate solution should be used to irrigate the eye using a syringe or a continuous irrigation device. Take the victim to a doctor, preferably an eye specialist, as soon as possible. Ice water compresses may be applied to the eyes while transporting the victim to the doctor. If a physician is not immediately available, apply one or two drops of 0.5% tetracaine hydrochloride, 0.5% proparacaine, or other aqueous, topical ophthalmic anesthetic and continue irrigation. Use no other medications unless instructed to do so by a physician. Rubbing of the eyes is to be avoided.
Symptoms/effects after ingestion	Burns. Have the victim drink several large glasses of water or milk to dilute the acid. Do not induce vomiting. Do not give emetics or baking soda. Never give anything by mouth to an unconscious person. Give several glasses of milk or several ounces of milk of magnesia, any calcium containing antacid or grind up and administer up to 30 antacid tablets with water. The calcium or magnesium in these compounds may act as an antidote; however this has not been supported in the literature. Get immediate medical attention. Ingestion of HF is a life-threatening emergency.
Most Important Symptoms/Effects	Causes severe burns which may not be immediately painful or visible. May cause hypocalcemia (depletion of calcium in the body) which may be fatal. Specialized medical treatment is required for all exposures.

SECTION 12: Ecological informat	ion
12.1. Toxicity	
Ecology - general	: Before neutralization, the product may represent a danger to aquatic organisms.
hydrofluoric acid (7664-39-3)	
LC50 fish 1	51 mg/l (96 h, Oncorhynchus mykiss, Experimental value)
EC50 Daphnia 1	26 - 48 mg/l (US EPA, 96 h, Invertebrata, Static system, Fresh water, Experimental value)
12.2. Persistence and degradability	
Phosphoric acid (7664-38-2)	
Persistence and degradability	Biodegradability: not applicable.
hydrofluoric acid (7664-39-3)	
Persistence and degradability	Inhibition of nitrification. Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
12.3. Bioaccumulative potential	
Phosphoric acid (7664-38-2)	
Bioaccumulative potential	No test data of component(s) available.
hydrofluoric acid (7664-39-3)	
BCF fish 1	2 - 62 (Literature study)
Log Pow	-1.4 (Experimental value)
Bioaccumulative potential	Not bioaccumulative.
12.4. Mobility in soil	
Phosphoric acid (7664-38-2)	
Ecology - soil	Highly mobile in soil.
hydrofluoric acid (7664-39-3)	
Surface tension	10.2 mN/m (0 °C, OECD 115: Surface Tension of Aqueous Solutions)
Ecology - soil	Adsorbs into the soil.

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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal consideratio	ns
13.1. Disposal methods	
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
SECTION 14: Transport information	
Department of Transportation (DOT)	
In accordance with DOT	
Proper Shipping Name (DOT)	: UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (CONTAINS ; hydrfluoric acid ; Phosphoric acid), 8, II
Hazard labels (DOT)	: 8 - Corrosive
	CORROSIVE
Emergency Response Guide (ERG) Number	: 154
Other information	: No supplementary information available.
Transport by sea (IMDG)	
Proper Shipping Name (IMDG)	: UN3264 Corrosive liquid, acidic, inorganic, n.o.s. (CONTAINS ; hydrfluoric acid ; Phosphoric acid), 8, II
Air transport (IATA)	
Proper Shipping Name (IATA)	: Factory package is not suitable for air shipment
SECTION 15: Regulatory informatio	n
15.1. US Federal regulations	
All components of this product are listed, or ex Substances Control Act (TSCA) inventory	cluded from listing, on the United States Environmental Protection Agency Toxic

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

hydrofluoric acid		CAS-No. 7664-39-3	8 - 10%	
Phosphoric acid (7664-38-2)				
CERCLA RQ	5000 lb			
hydrofluoric acid (7664-39-3)				
CERCLA RQ	100 lb			
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb			
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb			

15.2. International regulations
CANADA
Phosphoric acid (7664-38-2)
Listed on the Canadian DSL (Domestic Substances List) inventory

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hydrofluoric acid (7664-39-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm

Component	State or local regulations
Phosphoric acid(7664-38-2)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List
hydrofluoric acid(7664-39-3)	U.S Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

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Revision date	:	07/26/2018
Supersedes	:	05/08/2015

Full text of H-phrases:

H290	May be corrosive to metals
H300	Fatal if swallowed
H310	Fatal in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H402	Harmful to aquatic life

SDS US GHS NAR_2718

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