

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : CAPTAIN COIL
Product code : C-366

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

CK Industrial
21 Swan Drive
Rexford, NY 12148-1388
T 518-248-0798 - F 518-383-6809
WWW.CHEMICALKNOWHOW.COM

1.4. Emergency telephone number

Emergency number : Chem Tel 800-255-3924

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral), Category 4	Harmful if swallowed
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. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

Signal word (GHS-US)	: Danger
Contains	: ammonium hydrogen difluoride; sulfuric acid, conc>51%, aqueous solutions; phosphoric acid
Hazard statements (GHS-US)	: Harmful if swallowed Causes severe skin burns and eye damage
Precautionary statements (GHS-US)	: Do not breathe vapours, spray, mist Wash hands thoroughly after handling Do not eat, drink or smoke when using this product Wear eye protection, protective gloves If swallowed: Call a doctor if you feel unwell If swallowed: rinse mouth. Do NOT induce vomiting If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower If inhaled: Remove person to fresh air and keep comfortable for breathing If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a doctor Specific treatment (see First Aid measures on this label) Rinse mouth Wash contaminated clothing before reuse Store locked up Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

No additional information available

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2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

Name	Product identifier	%	GHS-US classification
ammonium hydrogen difluoride	(CAS No) 1341-49-7	7 - 11	Acute Tox. 3 (Oral), H301 Skin Corr. 1B, H314
phosphoric acid	(CAS No) 7664-38-2	0.75 - 9	Skin Corr. 1B, H314
sulfuric acid, conc>51%, aqueous solutions	(CAS No) 7664-93-9	4 - 7	Skin Corr. 1A, H314 Carc. 1A, H350

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after skin contact	: Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER or doctor/physician.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries	: Causes severe skin burns and eye damage.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity	: Corrosive vapours.
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5.3. Advice for firefighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures	: Evacuate unnecessary personnel.
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6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe spray, mist, vapours. Avoid contact during pregnancy/while nursing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

ammonium hydrogen difluoride (1341-49-7)

Not applicable

sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

ACGIH	Remark (ACGIH)	Pulm func
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

phosphoric acid (7664-38-2)

ACGIH	Remark (ACGIH)	URT, eye, & skin irr
OSHA	OSHA PEL (TWA) (mg/m ³)	1 mg/m ³

8.2. Exposure controls

Personal protective equipment : Gloves. Safety glasses.



Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear appropriate mask.

Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Colour : Green

Odour : acidic

Odour threshold : No data available

pH : No data available

Melting point : No data available

Freezing point : No data available

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Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosive limits	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Vapour pressure	: No data available
Relative density	: No data available
Relative vapour density at 20 °C	: No data available
Solubility	: Water: Solubility in water of component(s) of the mixture : • ammonium hydrogen difluoride: 63 g/100ml • nonylphenoxypoly(ethyleneoxy)ethanol: soluble • phosphoric acid: Complete
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Corrosive vapours.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

CAPTAIN COIL	
ATE US (oral)	1181.818 mg/kg bodyweight
ammonium hydrogen difluoride (1341-49-7)	
LD50 oral rat	130 mg/kg (Rat; Literature)
ATE US (oral)	130.000 mg/kg bodyweight
sulfuric acid, conc>51%, aqueous solutions (7664-93-9)	
LD50 oral rat	> 2140 mg/kg (Rat)
phosphoric acid (7664-38-2)	
LD50 oral rat	4400 mg/kg (Rat)
ATE US (oral)	4400.000 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

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Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified.

sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

IARC group	1 - Carcinogenic to humans
National Toxicology Program (NTP) Status	2 - Known Human Carcinogens
Reproductive toxicity	: Not classified
Specific target organ toxicity (single exposure)	: Not classified
Specific target organ toxicity (repeated exposure)	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/injuries after eye contact	: Causes serious eye damage.
Symptoms/injuries after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

ammonium hydrogen difluoride (1341-49-7)

LC50 fish 1	< 562 mg/l (LC50; 96 h; Brachydanio rerio)
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sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

LC50 fish 1	42 mg/l (LC50; 96 h)
EC50 Daphnia 1	29 mg/l (EC50; 24 h)

phosphoric acid (7664-38-2)

LC50 fish 1	138 mg/l (LC50)
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12.2. Persistence and degradability

CAPTAIN COIL

Persistence and degradability	Not established.
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ammonium hydrogen difluoride (1341-49-7)

Persistence and degradability	Biodegradability: not applicable. Not established.
ThOD	Not applicable

sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

phosphoric acid (7664-38-2)

Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the components available. Not established.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

CAPTAIN COIL

Bioaccumulative potential	Not established.
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ammonium hydrogen difluoride (1341-49-7)

Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
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sulfuric acid, conc>51%, aqueous solutions (7664-93-9)	
Log Pow	-2.20 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.
phosphoric acid (7664-38-2)	
Log Pow	-0.77 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable. Not established.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Effect on the global warming : No known ecological damage caused by this product.

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to an approved waste disposal plant.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2817 Ammonium hydrogendifluoride, solution, 8, II

UN-No.(DOT) : UN2817

Proper Shipping Name (DOT) : Ammonium hydrogendifluoride, solution

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Hazard labels (DOT) : 8 - Corrosive
6.1 - Poison



Packing group (DOT) : II - Medium Danger

DOT Packaging Bulk (49 CFR 173.xxx) : 243

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 1 L

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 30 L

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

Other information : No supplementary information available.

TDG

No additional information available

Transport by sea

UN-No. (IMDG) : 2817

Proper Shipping Name (IMDG) : AMMONIUM HYDROGENDIFLUORIDE SOLUTION

Class (IMDG) : 8 - Corrosive substances

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Packing group (IMDG) : II - substances presenting medium danger

Air transport

UN-No. (IATA) : 2817
Proper Shipping Name (IATA) : Ammonium hydrogendifluoride solution
Class (IATA) : 8 - Corrosives
Packing group (IATA) : II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

CAPTAIN COIL

Not listed on the United States TSCA (Toxic Substances Control Act) inventory

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

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.

sulfuric acid, conc>51%, aqueous solutions	CAS No 7664-93-9	4 - 7%
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ammonium hydrogen difluoride (1341-49-7)

CERCLA RQ	100 lb
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sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

CERCLA RQ	1000 lb
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SARA Section 302 Threshold Planning Quantity (TPQ)	1000 lb
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phosphoric acid (7664-38-2)

CERCLA RQ	5000 lb
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15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

Listed on IARC (International Agency for Research on Cancer)
Listed as carcinogen on NTP (National Toxicology Program)

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

ammonium hydrogen difluoride (1341-49-7)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

sulfuric acid, conc>51%, aqueous solutions (7664-93-9)

U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

phosphoric acid (7664-38-2)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information : None.

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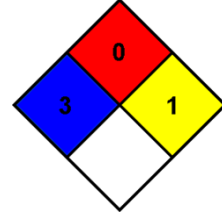
Full text of H-statements:

H301	Toxic if swallowed
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H350	May cause cancer

NFPA health hazard : 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

Health : 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability : 0 Minimal Hazard - Materials that will not burn

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Personal Protection : B

B - Safety glasses, Gloves

SDS US (GHS HazCom 2012)

No representation or warranty, either expressed or implied, of merchantability, fitness for a particular purpose, or of any other nature, is made with respect to information concerning the product referred to in this document. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, it is impossible to foresee every health effect or exposure risk incurred by the use of this product. All chemicals present some degree of hazard and should be used with caution. The information and recommendations contained herein are presented in good faith. The user should review this information in conjunction with their knowledge of the application intended to determine the suitability of this product for such purpose. In no event will the supplier be responsible for any damages of any nature whatsoever, resulting from the use, reliance upon, or the misuse of this information. Furthermore, it is the direct responsibility of the user to comply with all applicable regulations governing the use and disposal of this material.