

# Ammonia Tank Cleaner

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 10/28/2015 Version: 1.0

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Identification

Product form : Substance  
 Substance name : Ammonia Tank Cleaner  
 CAS No : 1336-21-6  
 Formula :  $\text{NH}_4\text{OH}$   
 Synonyms : alkaline air, 10%≤conc<25%, aqueous solutions / ammonia hydrate, 10%≤conc<25%, aqueous solutions / Ammonia solution / Ammonia solution, relative density between 0.880 and 0.957 at 15 °C in water, with more than 10% but not more than 35% ammonia / ammonia solution, relative density between 0.880 and 0.957 at 15°C in water, with more than 10% but not more than 35% ammonia / ammonia, aqua, 10%≤conc<25%, aqueous solutions / ammonia, caustic, 10%≤conc<25%, aqueous solutions / ammonia, liquor, 10%≤conc<25%, aqueous solutions / ammoniasolution, 10%≤conc<25%, aqueous solutions / ammoniawater, 10%≤conc<25%, aqueous solutions / ammoniawater, stronger, 10%≤conc<25%, aqueous solutions / ammonium hydrate, 10%≤conc<25%, aqueous solutions / aqua ammonium, 10%≤conc<25%, aqueous solutions / household ammonia, 10%≤conc<25%, aqueous solutions / liquor ammonia, 10%≤conc<25%, aqueous solutions / spirit of hartshorn, 10%≤conc<25%, aqueous solutions / volatile alkali, 10%≤conc<25%, aqueous solutions / water of ammonia, 10%≤conc<25%, aqueous solutions  
 BIG no : 10087

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

Use of the substance/mixture : Industrial use

#### 1.3. Details of the supplier of the safety data sheet

Land View Inc.  
 20504 4th Street  
 Rupert, ID 83350 - USA  
 T 208-531-4100 - F 208-531-4069  
[landview@lvf.com](mailto:landview@lvf.com) - [www.lvf.com](http://www.lvf.com)

#### 1.4. Emergency telephone number

Emergency number : 24 Hour Emergency HAZMAT Response (800) 229-5252: EPA National Response Center (800) 424-8802

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### Classification (GHS-US)

Acute Tox. 4 (Oral) H302 - Harmful if swallowed  
 Skin Corr. 1A H314 - Causes severe skin burns and eye damage  
 Aquatic Acute 1 H400 - Very toxic to aquatic life

Full text of H-phrases: see section 16

#### 2.2. Label elements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

H302 - Harmful if swallowed  
 H314 - Causes severe skin burns and eye damage  
 H400 - Very toxic to aquatic life

Precautionary statements (GHS-US) :

P260 - Do not breathe vapors  
 P264 - Wash Skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P273 - Avoid release to the environment  
 P280 - Wear eye protection, face protection, protective gloves  
 P301+P312 - If swallowed: Call a doctor if you feel unwell

# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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 doctor  
P321 - Specific treatment (see Section 4 on this label)  
P330 - Rinse mouth  
P363 - Wash contaminated clothing before reuse  
P391 - Collect spillage  
P405 - Store locked up  
P501 - Dispose of contents/container to an approved waste disposal plant

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

Name	Product identifier	%	Classification (GHS-US)
ammonia, 10%<=conc<25%, aqueous solutions (Main constituent)	(CAS No) 1336-21-6	100	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314 Aquatic Acute 1, H400

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Call a physician immediately.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.
- First-aid measures after skin contact : Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital. Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Call a physician immediately.
- First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes. Cover eyes aseptically. Do not apply neutralizing agents. Take victim to an ophthalmologist. 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 with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Immediately consult a doctor/medical service. Call Poison Information Centre ([www.big.be/antigif.htm](http://www.big.be/antigif.htm)). Take the container/vomit to the doctor/hospital. Ingestion of large quantities: immediately to hospital. Rinse mouth. Do NOT induce vomiting. Call a physician immediately.

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

- Symptoms/injuries after inhalation : Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea. Headache. EXPOSURE TO HIGH CONCENTRATIONS: Possible oedema of the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal spasm/oedema. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Risk of pneumonia. Respiratory difficulties. Possible esophageal perforation.
- Symptoms/injuries after skin contact : Caustic burns/corrosion of the skin. Burns.
- Symptoms/injuries after eye contact : Corrosion of the eye tissue. Permanent eye damage. Serious damage to eyes.
- Symptoms/injuries after ingestion : Risk of aspiration pneumonia. Nausea. Vomiting. AFTER ABSORPTION OF HIGH QUANTITIES: Blue/grey discolouration of the skin. Blood in stool. Blood in vomit. Possible esophageal perforation. FOLLOWING SYMPTOMS MAY APPEAR LATER: Shock. Burns.

# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Chronic symptoms : ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Coughing. Irritation of the respiratory tract. Irritation of the eye tissue. Redness of the eye tissue. Possible inflammation of the respiratory tract. Respiratory difficulties. Affection of the nasal septum.

### 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 : Adapt extinguishing media to the environment. Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable extinguishing media : No unsuitable extinguishing media known.

### 5.2. Special hazards arising from the substance or mixture

Fire hazard : DIRECT FIRE HAZARD. Non combustible.

Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity : On heating: release of toxic/corrosive/combustible gases/vapours (ammonia). On burning: release of toxic and corrosive gases/vapours (nitrous vapours). Concentrated solution violent to explosive reaction with many compounds e.g.: with (some) halogens compounds, with (strong) oxidizers and with (some) acids.

### 5.3. Advice for firefighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat. Dilute toxic gases with water spray. Take account of toxic fire-fighting water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Gas-tight suit. Corrosion-proof suit. See "Material-Handling" to select protective clothing.

Emergency procedures : Ventilate spillage area. Keep upwind. Mark the danger area. Consider evacuation. Close doors and windows of adjacent premises. No naked flames. Keep containers closed. Wash contaminated clothes. Avoid contact with skin and eyes. Do not breathe dust/fume/gas/mist/vapors/spray.

#### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection".

### 6.2. Environmental precautions

Avoid release to the environment. Prevent soil and water pollution. Prevent spreading in sewers.

### 6.3. Methods and material for containment and cleaning up

For containment : Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Dilute toxic gases/vapours with water spray. Take account of toxic/corrosive precipitation water. Collect spillage.

Methods for cleaning up : Take up liquid spill into absorbent material. Take up liquid spill into absorbent material, e.g.: sand/earth or powdered limestone. Scoop absorbed substance into closing containers. See "Material-handling" for suitable container materials. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection".

# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

- Precautions for safe handling : Ensure good ventilation of the work station. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Keep away from naked flames/heat. Observe strict hygiene. Keep container tightly closed. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Exhaust gas must be neutralised. Avoid contact with skin and eyes. Do not breathe vapors. Wear personal protective equipment.
- Hygiene 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, including any incompatibilities

- Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Prohibitions on mixed storage : KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens.
- Storage area : Keep container in a well-ventilated place. Keep locked up. Provide for a tub to collect spills. Meet the legal requirements.
- Special rules on packaging : SPECIAL REQUIREMENTS: closing. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.
- Packaging materials : SUITABLE MATERIAL: synthetic material. glass. MATERIAL TO AVOID: aluminium. copper. tin. zinc. nickel. bronze.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)		
ACGIH	ACGIH TWA (ppm)	25 ppm
ACGIH	ACGIH STEL (ppm)	25 ppm

#### 8.2. Exposure controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Materials for protective clothing : GIVE EXCELLENT RESISTANCE: butyl rubber. neoprene. nitrile rubber. GIVE GOOD RESISTANCE: PVC. tetrafluoroethylene. GIVE LESS RESISTANCE: natural rubber. GIVE POOR RESISTANCE: polyethylene. PVA.
- Hand protection : Gloves.
- Eye protection : Safety glasses.
- Skin and body protection : Head/neck protection. Corrosion-proof clothing.
- Respiratory protection : Gas mask with filter type K at conc. in air > exposure limit.
- Environmental exposure controls : Avoid release to the environment.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

- Physical state : Liquid
- Appearance : Liquid.
- Color : Colourless
- Odor : Irritating/pungent odour
- Odor threshold : 1 - 50 ppm
- pH : > 13
- Melting point : Not applicable
- Freezing point : No data available
- Boiling point : No data available
- Flash point : Not applicable
- Relative evaporation rate (butyl acetate=1) : No data available
- Flammability (solid, gas) : No data available
- Explosion limits : No data available
- Explosive properties : No data available
- Oxidizing properties : No data available

# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Vapor pressure	: > 100 hPa (20 °C)
Relative density	: 0.8 - 0.96
Relative vapor density at 20 °C	: No data available
Molecular mass	: 35.05 g/mol
Solubility	: Water: Complete
Log Pow	: -1.14
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available

### 9.2. Other information

Minimum ignition energy	: Not applicable
VOC content	: 0 %
Other properties	: Clear. Physical properties depending on the concentration. Volatile. Substance has basic reaction.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

On heating: release of toxic/corrosive/combustible gases/vapours (ammonia). On burning: release of toxic and corrosive gases/vapours (nitrous vapours). Concentrated solution violent to explosive reaction with many compounds e.g.: with (some) halogens compounds, with (strong) oxidizers and with (some) acids.

### 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).

### 10.5. Incompatible materials

Contact with mercury, chlorine, bromine, iodine, calcium, silver oxide, or hypochlorite can form explosive compounds. strong acids. Strong bases.

### 10.6. Hazardous decomposition products

ammonia.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)	
LD50 oral rat	350 mg/kg
ATE US (oral)	350.000 mg/kg body weight

Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: > 13
Serious eye damage/irritation	: Not classified pH: > 13
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

# ammonia, 10%≤conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Symptoms/injuries after inhalation	: Dry/sore throat. Coughing. Irritation of the respiratory tract. Irritation of the nasal mucous membranes. Nausea. Headache. EXPOSURE TO HIGH CONCENTRATIONS: Possible oedema of the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal spasm/oedema. FOLLOWING SYMPTOMS MAY APPEAR LATER: Risk of lung oedema. Risk of pneumonia. Respiratory difficulties. Possible esophageal perforation.
Symptoms/injuries after skin contact	: Caustic burns/corrosion of the skin. Burns.
Symptoms/injuries after eye contact	: Corrosion of the eye tissue. Permanent eye damage. Serious damage to eyes.
Symptoms/injuries after ingestion	: Risk of aspiration pneumonia. Nausea. Vomiting. AFTER ABSORPTION OF HIGH QUANTITIES: Blue/grey discolouration of the skin. Blood in stool. Blood in vomit. Possible esophageal perforation. FOLLOWING SYMPTOMS MAY APPEAR LATER: Shock. Burns.
Chronic symptoms	: ON CONTINUOUS/REPEATED EXPOSURE/CONTACT: Coughing. Irritation of the respiratory tract. Irritation of the eye tissue. Redness of the eye tissue. Possible inflammation of the respiratory tract. Respiratory difficulties. Affection of the nasal septum.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general	: Classification concerning the environment: not applicable. Very toxic to aquatic life.
Ecology - air	: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Water pollutant (surface water). Affects the self-cleaning capacity of surface water. Ground water pollutant. Maximum concentration in drinking water: 0.50 mg/l (ammonium) (Directive 98/83/EC). May cause eutrophication. pH shift. Inhibition of activated sludge.

### 12.2. Persistence and degradability

#### ammonia, 10%≤conc<25%, aqueous solutions (1336-21-6)

Persistence and degradability	Readily biodegradable in water. Ozonation in water. Biodegradable in the soil. No (test) data on mobility of the components available. Ozonation in the air.
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### 12.3. Bioaccumulative potential

#### ammonia, 10%≤conc<25%, aqueous solutions (1336-21-6)

Log Pow	-1.14
Bioaccumulative potential	Bioaccumulation: not applicable.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations	: Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle/reuse. Remove for physico-chemical/biological treatment. Remove to an authorized incinerator equipped with an afterburner and a flue gas scrubber with energy recovery. Use appropriate containment to avoid environmental contamination.
Additional information	: LWCA (the Netherlands): KGA category 02. Hazardous waste according to Directive 2008/98/EC.

## SECTION 14: Transport information

### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN2672 Ammonia solutions (relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia), 8, III
UN-No.(DOT)	: UN2672

# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Proper Shipping Name (DOT)	: Ammonia solutions relative density between 0.880 and 0.957 at 15 degrees C in water, with more than 10 percent but not more than 35 percent ammonia
Hazard Classes (DOT)	: 8 - Class 8 - Corrosive material 49 CFR 173.136
Hazard labels (DOT)	: 8 - Corrosive



Packing group (DOT)	: III - Minor Danger
Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F). T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 60 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters",52 - Stow "separated from" acids,85 - Under deck stowage must be in mechanically ventilated space
Other information	: No supplementary information available.

### TDG

No additional information available

### Transport by sea

UN-No. (IMDG)	: 2672
Class (IMDG)	: 8 - Corrosive substances
EmS-No. (1)	: F-A
EmS-No. (2)	: S-B

### Air transport

UN-No.(IATA)	: 2672
Class (IATA)	: 8 - Corrosives
Packing group (IATA)	: III - Minor Danger



# ammonia, 10%<=conc<25%, aqueous solutions

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
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#### 15.2. International regulations

##### CANADA

No additional information available

##### EU-Regulations

No additional information available

##### National regulations

No additional information available

#### 15.3. US State regulations

##### ammonia, 10%<=conc<25%, aqueous solutions (1336-21-6)

State or local regulations	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
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### SECTION 16: Other information

Full text of H-phrases:

Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Skin Corr. 1A	Skin corrosion/irritation Category 1A
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H400	Very toxic to aquatic life

NFPA health hazard

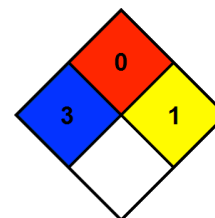
: 3 - Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.

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.



SDS US (GHS HazCom 2012)

All information contained in this Safety Data Sheet is furnished free of charge and is intended for your evaluation. In our opinion the information is, as of the date of this Safety Data Sheet, reliable, however, it is your responsibility to determine the suitability of the information for your use. You are advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional or variable conditions or circumstances exist or because of applicable laws or government regulations. Therefore, you should use this information only as a supplement to other information gathered by you, and you must make independent determinations of the suitability and completeness of the information from all sources to assure both proper use of the material described herein and the safety and health of employees. Accordingly, no guarantee is expressed or implied as to the results to be obtained based upon your use of the information.