



United States Steel Corporation

Anhydrous Ammonia Safety Data Sheet (SDS)

USS IHS Number: 44

Location(s): Clairton

Original: 8/1985

Revision: 07/07/2026

Section 1 – Identification

1(a) Product Identifier Used on Label: Anhydrous Ammonia

1(b) Other Means of Identification: Ammonia

1(c) Recommended Use of the Chemical and Restrictions on Use: None

1(d) Name, Address, and Telephone Number:

United States Steel Corporation
600 Grant Street
Pittsburgh, PA 15219-2800

Phone number: (412) 433-6840 (8:00 am to 5:00 pm)
E-Mail: SDSHelp@USS.com

1(e) Emergency Phone Number: 1-800-262-8200 (CHEMTREC)

Section 2 – Hazard(s) Identification

2(a) Classification of the chemical in accordance with the 2024 updated OSHA Hazard Communication Standard (29 CFR 1910.1200):

- As supplied, **Anhydrous Ammonia** is considered hazardous according to 29 CFR 1910.1200. For potential hazards associated with **Anhydrous Ammonia as shipped/ supplied, Refer to section 2(b)(i).**
- Under reasonably anticipated conditions of use and/ or change in physical form, **Anhydrous Ammonia** is considered hazardous according to 29 CFR 1910.1200. For potential hazards associated with **a change in the physical form of Anhydrous Ammonia, Refer to section 2(b)(ii).**

2(b)(i) Hazard Classification, Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s) for Anhydrous Ammonia as Supplied:

Hazard Symbol	Hazard Classification	Signal Word	Hazard Statement(s)
	Flammable Gases – Category 2 Gases Under Pressure (Liquefied gas)	DANGER	Flammable gas. Contains gas under pressure; may explode when heated. Causes severe skin burns and serious eye damage. Corrosive to the respiratory tract. Toxic if inhaled.
	Skin Corrosion / Irritation – Category 1B Serious Eye Damage / Irritation - Category 1		
	Acute Toxicity, Inhalation – Category 3		

Precautionary Statement(s):

Prevention	Response	Storage/Disposal
Do not breathe gas/mist/vapors or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves / protective clothing / eye protection / face protection. Wash thoroughly after handling. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.	If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician. If in eyes: Immediately call a poison center or doctor/physician. Rinse cautiously with water for a minimum of 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.	Store locked up. Store in a well-ventilated place. Keep container tightly closed. Protect from sunlight. Dispose of contents in accordance with federal, state and local regulations.

Anhydrous Ammonia

USS IHS No.: 44

Rev. 7/07/26

Section 2 – Hazard(s) Identification (continued)

2(b)(ii) Hazard Classification, Signal Word, Hazard Statement(s), Symbols and Precautionary Statement(s) for Anhydrous Ammonia under reasonably anticipated conditions of use and/ or change in physical form. Same hazard information as in 2(b)(i) above.

2(c) Hazards Created by Chemical Reaction: Anhydrous Ammonia can react violently and explosively with oxidizing gases, hypochlorites, acids, reducing agents, silver and mercury.

2(d) Hazards Not Otherwise Classified: Anhydrous Ammonia may displace oxygen and cause rapid suffocation.

2(e) Unknown Acute Toxicity Statement (mixture): None Known

Section 3 – Composition/Information on Ingredients

3(a-c) Chemical Name, Common Name (Synonyms), CAS Number and Other Identifiers, and Concentration:

Chemical Name	CAS Number	% Volume
Anhydrous Ammonia*	7664-41-7	99.5

*Note: Very small amounts ($\leq 0.4\%$) of residual water may be present.

CAS- Chemical Abstract Service

3(d) Impurities and other constituents below the call out that may contribute to the classification of the substance: None Known

Section 4 – First-aid Measures

4(a) Description of Necessary Measures:

- **Inhalation: CRYOGENIC LIQUID** If inhaled: Remove person to fresh air and keep comfortable for breathing. Immediately call a poison center or doctor/physician.
- **Eye Contact: CRYOGENIC LIQUID** If in eyes: 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.
- **Skin Contact: CRYOGENIC LIQUID** If on skin (or hair): Immediately rinse skin and clothing with plenty of water before removing clothes. Clothing that has been contacted by liquid ammonia may freeze to the skin. Thaw frozen clothing from skin before removing. Flush skin with copious amounts of tepid water for a minimum of 20 minutes. Do not rub or apply topical, occlusive compounds, such as ointments, certain creams, etc., on affected area. For liquid ammonia contact, seek immediate medical attention. For severe vapor contact or if irritation persists, seek medical attention. Immediately call a poison center or doctor/physician.
- **Ingestion: CRYOGENIC LIQUID** If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4(b) Most Important Symptoms/Effects, Acute and Delayed (Chronic):

Acute Effects: Exposure to liquid or rapidly expanding gases may cause severe chemical burns and frostbite to the eyes, lungs and skin. Ammonia produces corrosive burns. Injury is dependent upon duration of exposure and ammonia concentration. Injury varies from mild edema and erythema to severe burns and life-threatening pulmonary edema.

- **Inhalation:** Breathing mist and vapors can cause severe chemical burns and frostbite and can be extremely destructive to mucous membranes, and upper respiratory tract.
- **Eye:** Causes severe chemical burns and frostbite
- **Skin:** Causes severe chemical burns and frostbite. May be harmful if absorbed through skin.
- **Ingestion:** Causes irritation to the gastrointestinal tract.

Chronic (Delayed) Effects:

Prolonged or repeated exposures may result in respiratory disorders. Chronic obstructive pulmonary disease may also develop from fibrous obstruction of the smaller airways. Repeated exposure may cause chronic cough, bronchitis, asthma, vocal cord dysfunction, reactive airways disease, and lung fibrosis. A permanent decrement in pulmonary function has been noted to occur.

4(c) Immediate Medical Attention and Special Treatment: Treat symptomatically.

- **Inhalation:** Move patient to fresh air. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. If trained to do so administer supplemental oxygen with assisted ventilation as required. Administer artificial respiration if patient is not breathing.
- **Eyes:** Immediately flush eyes with copious amounts of tepid water for at least 15 minutes. If irritation, pain, swelling, excessive tearing, or light sensitivity persists, the patient should be seen in a health care facility and referral to an ophthalmologist considered.
- **Skin:** Immediately flush exposed area with copious amounts of tepid water for at least 15 minutes followed by washing area thoroughly with soap and water. The patient should be seen in a health care facility if irritation or pain persists.
- **Ingestion:** Call a physician. If conscious, give the patient milk or water to drink immediately. Do not induce vomiting.

Caution: Clothing frozen to the skin should be thawed before being removed.

NOTE TO PHYSICIAN: Respiratory injury may occur as a delayed phenomenon. Pulmonary edema may follow chemical bronchitis. Supportive treatment with necessary ventilation actions, including oxygen, may warrant consideration.

Anhydrous Ammonia

USS IHS No.: 44

Rev. 7/07/26

Section 5 – Fire-fighting Measures

5(a) Suitable (and unsuitable) Extinguishing Media: Leaking gas fire: Do not extinguish unless leak can be stopped safely. Eliminate all ignition sources if safe to do so. Extinguishing Media: Small Fire: Dry chemical or CO₂; Large Fire: Water spray, fog or foam.

5(b) Specific Hazards Arising from the Chemical: Explosion potential if vessel containing liquid ammonia is exposed to heat. Irritating ammonia and nitrogen oxide vapors/gas may form in fire

5(c) Special Protective Equipment and Precautions for Fire-fighters: When fumes and/or smoke from fire are present self-contained NIOSH approved respiratory protection and full protective clothing that is safe for use with ammonia involved in a fire should be worn. Heat and flames cause emittance of acrid smoke and fumes. Do not release runoff from fire control methods to sewers or waterways. Direct water stream will scatter and spread flames and, therefore, should not be used. Do not get water inside container. Move container from fire area if you can do it without risk. Apply cooling water to sides of containers that are exposed to flames until well after fire is out. Stay away from ends of tanks due to exploding potential when tanks are involved in a fire. Isolate area until gas has dispersed. Use water spray or foam to control vapor.

Section 6 - Accidental Release Measures

6(a) Personal Precautions, Protective Equipment and Emergency Procedures: This product is either a liquid (at elevated pressure and/or low temperature or a vapor (gas) under ambient conditions. A “spill” would rapidly form a cloud of vapor. If a vapor cloud were sprayed with water, the ammonia would go into solution, which could then be released to the ground or into a sewer or waterway. Personnel should be protected against contact with eyes and skin and avoid inhalation of vapor/mist. Do not release into sewers or waterways. Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations.

6(b) Methods and Materials for Containment and Clean Up: Collect material in appropriate, labeled containers for recovery or disposal in accordance with federal, state, and local regulations. Follow applicable OSHA regulations (29 CFR 1910.120) and all other pertinent state and federal requirements.

Stop leak if you can do so without risk. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind, out of low areas, and ventilate closed spaces before entering. Evaluate the affected area to determine whether to evacuate or shelter-in-place by taping windows and doors, shutting off outside air intakes (attic fans, etc.), and placing a wet towel or cloth over the face (if needed). With proper training, self-contained breathing apparatus (SCBA) and structural firefighter’s protective clothing used in conjunction with water spray will provide limited protection in outdoor releases for short-term exposure. Fully encapsulating, vapor-protective clothing should be worn for spills and leaks with no fire. Use water spray or foam to control vapors. Mixing of water and liquid ammonia will increase vaporization rate. Do not put water on liquid ammonia unless more than 100 volumes of water are available for each volume of liquid ammonia.

Section 7 - Handling and Storage

7(a) Precautions for Safe Handling: Do not breathe gas/mist/vapors or spray. Use only outdoors or in a well-ventilated area. Wear protective gloves / protective clothing / eye protection / face protection. Wash thoroughly after handling. Emergency safety showers and eye wash stations should be present.

7(b) Conditions for Safe Storage, including any Incompatibilities: Store locked up. Store in a well-ventilated place. Keep container tightly closed. Ammonia has a great affinity for water, so special care must be taken to keep the ammonia dry. Anhydrous ammonia is not compatible with copper, brass, bronze, zinc or mercury. Ammonia corrodes copper and brass into a blue-green salt.

Section 8 - Exposure Controls / Personal Protection

8(a) Occupational Exposure Limits (OELs): The following exposure limits are offered as reference, for an experienced industrial hygienist to review.

Ingredients	OSHA PEL ¹	ACGIH TLV ²	NIOSH REL ³	IDLH ⁴
Ammonia	50 ppm	25 ppm 35 ppm “STEL”	25 ppm 35 ppm “STEL”	300 ppm

1. OSHA PELs (Permissible Exposure Limits) are 8-hour TWA (time-weighted average) concentrations unless otherwise noted. A (“C”) designation denotes a ceiling limit, which should not be exceeded during any part of the working exposure unless otherwise noted. A Short Term Exposure Limit (STEL) is defined as a 15-minute exposure, which should not be exceeded at any time during a workday. An Action level (AL) is used by OSHA and NIOSH to express a health or physical hazard. They indicate the level of a harmful or toxic substance/activity, which requires medical surveillance, increased industrial hygiene monitoring, or biological monitoring. Action Levels are generally set at one half of the PEL but the actual level may vary from standard to standard. The intent is to identify a level at which the vast majority of randomly sampled exposures will be below the PEL.

2. Threshold Limit Values (TLV) established by the American Conference of Governmental Industrial Hygienists (ACGIH) are 8-hour TWA concentrations unless otherwise noted. ACGIH TLVs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes. DSEN – May cause dermal sensitization. This notation is used to indicate the potential for dermal sensitization resulting from the interaction of an absorbed agent and ultraviolet light (i.e. photosensitization). RSEN – May cause respiratory sensitization.

3. The National Institute for Occupational Safety and Health Recommended Exposure Limits (NIOSH-REL)- Compendium of Policy and Statements. NIOSH, Cincinnati, OH (1992). NIOSH is the federal agency designated to conduct research relative to occupational safety and health. As is the case with ACGIH TLVs, NIOSH RELs are for guideline purposes only and as such are not legal, regulatory limits for compliance purposes.

4. The “immediately dangerous to life or health air concentration values (IDLHs)” are used by NIOSH as part of the respirator selection criteria and were first developed in the mid-1970’s by NIOSH. The Documentation for Immediately Dangerous to Life or Health Concentrations (IDLHs) is a compilation of the rationale and sources of information used by NIOSH during the original determination of 387 IDLHs and their subsequent review and revision in 1994. In 2013 NIOSH published a guidance document for calculating IDLH values [Current Intelligence Bulletin 66: Derivation of Immediately Dangerous to Life or Health \(IDLH\) Values](#)

8(b) Appropriate Engineering Controls: Local exhaust ventilation should be used to control the emission of air contaminants. General dilution ventilation may assist with the reduction of air contaminant concentrations. Emergency eye wash stations and deluge safety showers should be available in the work area.

Section 8 - Exposure Controls / Personal Protection (continued)

8(c) Individual Protection Measures:

- **Respiratory Protection:** Seek professional advice prior to respirator selection and use. Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, use only a NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. Concentration in air of the various contaminants determines the extent of respiratory protection needed. Half-face, negative-pressure, air-purifying respirator equipped with an Ammonia/Methylamine filter is acceptable for concentrations up to 10 times the exposure limit. Full-face, negative-pressure, air-purifying respirator equipped with an Ammonia/Methylamine filter is acceptable for concentrations up to 50 times the exposure limit. Protection by air-purifying negative-pressure and powered air respirators is limited. Use a positive-pressure-demand, full-face, supplied air respirator or self-contained breathing apparatus (SCBA) for concentrations above 50 times the exposure limit. If exposure is above the IDLH (Immediately dangerous to life or health) for any of the constituents, or there is a possibility of an uncontrolled release or exposure levels are unknown, then use a positive-demand, full-face, supplied air respirator with escape bottle or SCBA.

Warning! Air-purifying respirators, both negative-pressure and powered-air, do not protect workers in oxygen-deficient atmospheres.

- **Eyes:** Wear appropriate eye protection to prevent eye contact. Use safety glasses with side shields or chemical goggles.
- **Skin:** Persons handling this product should wear appropriate clothing to prevent skin contact. Wear protective gloves.
- **Other Protective Equipment:** An eyewash fountain and deluge shower should be readily available in the work area.

Section 9 - Physical and Chemical Properties

9(a) Physical state: Gas under pressure; liquified gas	9(j) Decomposition Temperature: > 454°C
9(b) Color: Clear, Colorless	9(k) pH: 11.6 for 1N soln.in water
9(c) Odor Threshold: Pungent characteristic odor, 46.8 ppm	9(l) Kinematic Viscosity: 0.475 cP at -92°F (-69°C)
9(d) Melting Point/Freezing Point: -107.9°F (-77.7°C)/ NA	9(m) Solubility(ies): Highly Soluble
9(e) Initial Boiling Point and Boiling Range: -28.1°F (-33.4°C)	9(n) Partition Coefficient n-octanol/water: -1.14 at 68°F (25°C)
9(f) Flammability (solid, gas): Liquid: Non-flammable; Vapor: Flammable concentrations may accumulate in confined spaces.	9(o) Vapor Pressure: at 20°C (68°F) is 6491 mm Hg (absolute) or 110.8 psig Evaporation Rate: NA
9(g) Flash Point: NA	9(p) Relative Density: 0.62 SG
9(h) Upper/lower Flammability or Explosive Limits: 28% / 15%	9(q) Vapor Density (Air = 1): 0.60
9(i) Auto-ignition Temperature: 1204°F (651°C)	9(r) Particle Characteristics: NA
NA - Not Applicable	
ND - Not Determined for product as a whole	

Section 10 - Stability and Reactivity

10(a) Reactivity: Anhydrous Ammonia has potentially explosive reactions with strong oxidizers. Anhydrous Ammonia forms explosive mixtures in air with hydrocarbons, chlorine, fluorine and silver nitrate. Anhydrous Ammonia reacts to form explosive products, mixtures or compounds with mercury, gold, silver, iodine, bromine, silver oxide and silver chloride.

10(b) Chemical Stability: Anhydrous Ammonia is stable under normal storage and handling conditions. Heating a closed container causes vapor pressure to increase. Will not polymerize.

10(c) Possibility of Hazardous Reaction: Anhydrous Ammonia can react violently and explosively with oxidizing gases, hypochlorites, acids, reducing agents, silver and mercury.

10(d) Conditions to Avoid: Avoid Anhydrous Ammonia contact with chlorine, which forms a chloramine gas, which is a primary skin irritant and sensitizer. Avoid contact with galvanized surfaces, copper, brass, bronze, mercury, gold and silver. A corrosive reaction will occur.

10(e) Incompatible Materials: Anhydrous Ammonia has potentially explosive or violent reactions with interhalogens, strong oxidizers, nitric acid, fluorine and nitrogen oxide. Ammonia forms sensitive explosive mixtures with air and hydrocarbons, ethanol and silver nitrate and chlorine. Explosive products are formed by the reaction of ammonia with silver chloride, silver oxide, bromine, iodine, gold, mercury and tellurium halides. Ammonia is incompatible or has potentially hazardous reactions with silver, acetaldehyde, acrolein, boron, halogens, perchlorate, chloric acid, chlorine monoxide, chlorites, nitrogen tetroxide, tin, sulfur and strong acids.

Heat, incompatibles. May react violently with acids, aldehydes, alkylene oxides, amides, boron, boron halides, calcium, chlorine azide, chloric acid, chlorine monoxide, chlorites, halogens, heavy metals and many other materials.

10(f) Hazardous Decomposition Products: Anhydrous Ammonia under normal conditions of storage and use, hazardous decomposition products should not be produced. At high temperatures (e.g., above 600°F), ammonia may disassociate generating hydrogen and nitrogen gases. Decomposition temperatures may be lowered by contact with certain metals, such as iron, nickel and zinc and by catalytic surfaces. May emit ammonia and oxides of nitrogen.

Section 11 - Toxicological Information

Information on Toxicological Effects: The following toxicity data has been determined for **Anhydrous Ammonia**.

Potential Health Effects: The extent of injury produced by exposure to **Anhydrous Ammonia** depends on the duration of the exposure, the concentration of the liquid or vapor and the depth of inhalation. **Anhydrous Ammonia** can displace oxygen and can cause rapid suffocation. Ammonia is an irritant and corrosive to the skin, eyes, respiratory tract and mucous membranes. May cause severe chemical burns to the eyes, lungs and skin. Skin and respiratory related diseases could be aggravated by exposure.

11(a) Likely Routes of Exposure: Inhalation (vapors, gas), skin and/ or eye contact (vapors, gas, liquid).

11(b) Symptoms Related to Physical, Chemical and Toxicological Characteristics: Contact with this material will cause chemical burns to the skin, eyes and mucous membranes. Cough, shortness of breath, headache, nausea, and vomiting.

11(c) Delayed, Chronic and Immediate Effects from Short-term and Long-term Exposure:

- **Inhalation:** Exposure may result in severe irritation and/ or burns of the nose, throat and respiratory tract. May cause dyspnea (breathing difficulty), wheezing, chest pain, bronchospasm, pink frothy sputum, pulmonary edema or respiratory arrest. Extreme exposure may result in death from spasm, inflammation or edema. Respiratory injury may appear as a delayed phenomenon. Pulmonary edema may follow chemical bronchitis. Brief inhalation exposure to 5000 ppm may be fatal.
- **Skin:** Causes severe skin chemical burns. Irritation, corrosive burns, blister formation (vesiculation) may result. Contact with liquid may produce freeze burns (frostbite), caustic burns and tissue damage.
- **Eyes:** Causes severe eye damage. Vapors may cause severe irritation. Tearing, eye burns, permanent eye damage or blindness may occur. Effects of direct contact may range from irritation and lacrimation to severe injury and blindness.
- **Ingestion:** Ingestion is unlikely since the material is a gas under normal atmospheric conditions. If ingested, it may cause burns and corrosion, severe pain of the mouth, throat, esophagus and stomach or may be fatal.

11(d) Numerical Measures of Toxicity for the Product and/ or Components or Acute Toxicity Estimates (ATE):

Inhalation/ Oral:

The following LC₅₀ and LD₅₀ have been established for **Anhydrous Ammonia**:

- LD₅₀ = 350 mg/kg (Oral/ Rat)
- LC₅₀ = 2000 ppm 4 hr. (Inhalation/Rat)

Skin (Dermal) Irritation:

The Following Skin (Dermal) Irritation data is available for **Anhydrous Ammonia**:

- Corrosive

Eye Irritation:

The Following Eye Irritation data available for **Anhydrous Ammonia**:

- Causes serious eye damage

Skin (Dermal)/Respiratory Sensitization:

- No Skin (Dermal)/Respiratory Sensitization data available for **Anhydrous Ammonia**.

Aspiration Hazard: NA

Germ Cell Mutagenicity

- No Germ Cell Mutagenicity data available for **Anhydrous Ammonia**.

Reproductive Toxicity:

- No Toxic Reproduction data available for **Anhydrous Ammonia**.

Specific Target Organ Toxicity (STOT) following a Single Exposure:

- No Specific Target Organ Toxicity (STOT) following a Single Exposure data available for **Anhydrous Ammonia**.

Specific Target Organ Toxicity (STOT) following Repeated Exposure:

- No Specific Target Organ Toxicity (STOT) following Repeated Exposure data was available for **Anhydrous Ammonia**.

11(e) Interactive Effects: None known

11(f) Carcinogenicity *: IARC, NTP, NIOSH, OSHA, EPA and ACGIH do not list **Anhydrous Ammonia** as a carcinogen.

* Carcinogenicity determinations are based on the National Toxicology Program (NTP) Report on Carcinogens, or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs, NIOSH, EPA, ACGIH, or by OSHA as listed in the 2026 ACGIH Guide to Occupational Exposure Values.

The above toxicity information was determined from available scientific sources to illustrate the prevailing posture of the scientific community. The scientific resources includes: The American Conference of Governmental Industrial Hygienist (ACGIH) Documentation of the Threshold Limit Values (TLVs) and Biological Exposure indices (BEIs) with Other Worldwide Occupational Exposure Values 2026, The International Agency for Research on Cancer (IARC), The National Toxicology Program (NTP) updated documentation, the World Health Organization (WHO) and other available resources, the International Uniform Chemical Information Database (IUCID), European Union Risk Assessment Report (EU-RAR), Concise International Chemical Assessment Documents (CICAD), European Union Scientific Committee for Occupational Exposure Limits (EU-SCOEL), Agency for Toxic Substances and Disease Registry (ATSDR), Hazardous Substance Data Bank (HSDB), and International Programme on Chemical Safety (IPCS).

Section 12 - Ecological Information

12(a) Ecotoxicity (aquatic & terrestrial): Ammonia is harmful to aquatic life at very low concentrations. Notify local health and wildlife officials and operators of any nearby water intakes upon contamination of surface water.

Ecotoxicity:

- **Ammonia:** LC₅₀ *Oncorhynchus mykiss* = 11 – 48 mg/L; LC₅₀ *Lepomis cyanellus*=0.5 mg/L; LC₅₀ – 96h *Onchorhynchus tshawytscha*=0.43 – 0.47 mg/L; LC₅₀ *Daphnia magna* =101 mg/L.

Anhydrous Ammonia

USS IHS No.: 44

Rev. 7/07/26

Section 12 - Ecological Information (continued)

12(b) Persistence & Degradability: Biodegradable in soil. Ozonation in the air. Soluble in water.

12(c) Bioaccumulative Potential: No Data Available

12(d) Mobility (in soil): No Data Available

12(e) Other Adverse Effects: None Known

Additional Information:

Hazard Category: Aquatic Acute 1

Signal Word: Danger

Hazard Symbol:



Hazard Statement: Very toxic to aquatic life.

Section 13 - Disposal Considerations

Disposal: Dispose of contents/container in accordance with local/regional/international regulations.

Container Cleaning and Disposal: Follow applicable federal, state and local regulations.

Section 14 - Transport Information

14 (a-g) Transportation Information:

US Department of Transportation (DOT) under 49 CFR 172.101 regulates **Anhydrous Ammonia** as a **hazardous material**. All federal, state, and local laws and regulations that apply to the transport of this type of material must be adhered to.

Section 15 - Regulatory Information

Regulatory Information: *The following listing of regulations relating to a U. S. Steel product may not be complete and should not be solely relied upon for all regulatory compliance responsibilities.*

This product and/or its constituents are subject to the following regulations:

U.S. Federal Regulations: **Anhydrous Ammonia** may be regulated by OSHA and/ or EPA.

State Regulations: **Anhydrous Ammonia** may be listed in various state regulations.

California Prop. 65: This product, **Anhydrous Ammonia** does not contain elements known to the State of California to cause cancer or reproductive toxicity.

Section 16 - Other Information

Prepared By: United States Steel Corporation

Revision History:

07/07/2026 – Update to OSHA HCS 2024 GHS v.7

4/02/2014 - Update to OSHA HAZ COM 2012

09/08/2020 – Update Sections 2, 8, 11, 14 & 15

1/18/11 – Update of content and format to comply with GHS

06/21/17 – Update WHMIS 2015

8/1985 - Original

Additional Information:

Hazardous Material Identification System (HMIS) Classification

Health Hazard
Fire Hazard
Physical Hazard

HEALTH = 3, (Major injury likely unless prompt action is taken and medical treatment is given.)

FIRE = 1, Materials that must be preheated before ignition will occur.

PHYSICAL HAZARDS = 0, Materials that are normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosives.

National Fire Protection Association (NFPA)



HEALTH = 3, (Short exposure could cause serious temporary or residual injury even though prompt medical attention was given.)

FIRE = 1, Must be preheated before ignition can occur.

INSTABILITY = 0, Normally stable, even under fire exposure conditions, and are not reactive with water.

SPECIAL HAZARDS = Corrosive/ Gas under pressure

ABBREVIATIONS/ACRONYMS:

ACGIH	American Conference of Governmental Industrial Hygienists	NIOSH	National Institute for Occupational Safety and Health
ATE	Acute Toxicity Estimate	NTP	National Toxicology Program
BEIs	Biological Exposure Indices	ORC	Organization Resources Counselors
CAS	Chemical Abstracts Service	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
CFR	Code of Federal Regulations	PNOR	Particulate Not Otherwise Regulated

Anhydrous Ammonia

USS IHS No.: 44

Rev. 7/07/26

Section 16 - Other Information (continued)

ABBREVIATIONS/ACRONYMS (continued):

CNS	Central Nervous System	PNOC	Particulate Not Otherwise Classified
GI, GIT	Gastro-Intestinal, Gastro-Intestinal Tract	PPE	Personal Protective Equipment
HMIS	Hazardous Materials Identification System	ppm	parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
LC₅₀	Median Lethal Concentration	RTECS	Registry of Toxic Effects of Chemical Substances
LD₅₀	Median Lethal Dose	SARA	Superfund Amendment and Reauthorization Act
LD_{Lo}	Lowest Dose to have killed animals or humans	SCBA	Self-contained Breathing Apparatus
LEL	Lower Explosive Limit	SDS	Safety Data Sheet
µg/m³	microgram per cubic meter of air	STEL	Short-term Exposure Limit
mg/m³	milligram per cubic meter of air	TLV	Threshold Limit Value
mppcf	million particles per cubic foot	TWA	Time-weighted Average
MSHA	Mine Safety and Health Administration	UEL	Upper Explosive Limit
NFPA	National Fire Protection Association		

Disclaimer: This information is taken from sources or based upon data believed to be reliable. However, United States Steel Corporation makes no warranty as to the absolute correctness or sufficiency of any of the foregoing or that additional or other measures may not be required under particular conditions.