

Scientific Documentation

Strong Ammonia Solution, NF

Not appropriate for regulatory submission.

Please visit www.spectrumchemical.com or contact Tech Services for the most up-to-date information contained in this information package.

Spectrum Chemical Mfg Corp
769 Jersey Avenue
New Brunswick, NJ 08901
Phone 732.214.1300



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Specification for Strong Ammonia Solution, NF (AM180)

| | |
|-------------------|--|
| Item Number | AM180 |
| Item | Strong Ammonia Solution, NF |
| CAS Number | 1336-21-6 |
| Molecular Formula | NH ₃ (aq) |
| Molecular Weight | 17.03 |
| MDL Number | |
| Synonyms | Ammonium Hydroxide ; Aqueous Ammonia ; Strong Ammonia Solution |

| Test | Specification | |
|----------------------------------|-------------------------------|-------------|
| | Min | Max |
| APPEARANCE | | |
| ASSAY (NH ₃ , by wt.) | 27.0 | 31.0 % |
| NONVOLATILE RESIDUE | | 0.05 % |
| ELEMENTAL IMPURITIES | AS REPORTED | |
| READILY OXIDIZABLE SUBSTANCES | PINK COLOR REMAINS | |
| IDENTIFICATION | DENSE WHITE FUMES PRODUCED | |
| EXPIRATION DATE | | |
| DATE OF MANUFACTURE | | |
| MONOGRAPH EDITION | | |
| RESIDUAL SOLVENTS | | AS REPORTED |

Spectrum Chemical Mfg Corp

| | |
|--------------------------------|-----------------------------|
| Corporate Headquarters: | West Coast Facility: |
| 769 Jersey Ave. | 14422 S. San Pedro St. |
| New Brunswick, NJ 08901 | Gardena, CA 90248 |
| 732.214.1300 | 310.516.8000 |

Certificate Of Analysis

| | | | |
|-------------------|-----------------------------|------------------|-----------|
| Item Number | AM180 | Lot Number | 1NC0196 |
| Item | Strong Ammonia Solution, NF | CAS Number | 1336-21-6 |
| Molecular Formula | NH ₃ (aq) | Molecular Weight | 17.03 |

| TEST | SPECIFICATION | | RESULT |
|----------------------------------|----------------------------|-------------|---------------------------------|
| | MIN | MAX | |
| APPEARANCE | | | CLEAR COLORLESS LIQUID |
| ASSAY (NH ₃ , by wt.) | 27.0 | 31.0 % | 28.6 % |
| NONVOLATILE RESIDUE | | 0.05 % | <0.02 % |
| ELEMENTAL IMPURITIES | AS REPORTED | | NO ELEMENTAL IMPURITIES PRESENT |
| READILY OXIDIZABLE SUBSTANCES | PINK COLOR REMAINS | | PINK COLOR REMAINS |
| IDENTIFICATION | DENSE WHITE FUMES PRODUCED | | DENSE WHITE FUMES PRODUCED |
| EXPIRATION DATE | | | 07-FEB-2029 |
| DATE OF MANUFACTURE | | | 09-FEB-2024 |
| MONOGRAPH EDITION | | | (USP-NF) 2023 |
| RESIDUAL SOLVENTS | | AS REPORTED | NO RESIDUAL SOLVENTS PRESENT |

Certificate of Analysis Results Entered By:

HBERMUDEZ
Hernan Bermudez
01-APR-24 11:41:57

Spectrum Chemical Mfg Corp
14422 South San Pedro Street
Gardena 90248 CA



Certificate of Analysis Results Approved By:

SHANSEN
Selin Hansen
05-APR-24 08:42:02

All pharmaceutical ingredients are tested using current edition of applicable pharmacopeia.

Read and understand label and SDS before handling any chemicals. All Spectrum's chemicals are for manufacturing, processing, repacking or research purposes by experienced personnel only. It is the customer's responsibility to provide

adequate hazardous material training and ensure that appropriate Personal Protective Equipment (PPE) is used before handling any chemical.

The Elemental Impurities standards implemented by USP and other Pharmaceutical Compendia reflect a growing understanding of the toxicology of trace levels of elemental impurities that can remain in drug substances originating from either raw materials or manufacturing processes. Identifying and quantifying impurities can be critical to predicting the best possible patient outcomes. Elemental Impurities has been a requirement of all products meeting USP/NF, EP and BP monographs since January 1, 2018. More information can be found in USP sections <232> Elemental Impurities – Limits and <233> Elemental Impurities – Procedures. Data for drug substances furnished by Spectrum Chemical Mfg. Corp can be used to ensure that patient daily exposures by oral administration to the selected elements are not exceeded in the formulation of pharmaceutical products.

SAFETY DATA SHEET

spectrum®



Revision date 30-September-2021

Revision Number 4

1. Identification

Product identifier

Product Name STRONG AMMONIA SOLUTION, NF

Other means of identification

Product Code(s) AM180

UN/ID no UN2672

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use No information available

Restrictions on use No information available

Details of the supplier of the safety data sheet

Supplier Address

Spectrum Chemical Mfg. Corp.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Emergency telephone number

Emergency Telephone Chemtrec 1-800-424-9300

2. Hazard(s) identification

Classification

| | |
|--|---------------------------|
| Acute toxicity - Oral | Category 4 |
| Acute toxicity - Inhalation (Gases) | Category 4 |
| Acute toxicity - Inhalation (Dusts/Mists) | Category 4 |
| Skin corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Harmful if swallowed

Harmful if inhaled
Causes severe skin burns and eye damage
May cause respiratory irritation



Appearance Clear

Physical state Liquid

Odor Strong

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Do not breathe dusts or mists
Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor
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
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Immediately call a POISON CENTER or doctor
IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell
Rinse mouth
Do NOT induce vomiting

Precautionary Statements - Storage

Store locked up.
Store in a well-ventilated place. Keep container tightly closed

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Unknown acute toxicity

- 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
- 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Other information

No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

| Chemical name | CAS No | Weight-% | Trade secret |
|---------------|-----------|----------|--------------|
| Water | 7732-18-5 | 69 - 73 | * |
| Ammonia | 7664-41-7 | 27 - 31 | * |

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First-aid measures

Description of first aid measures

| | |
|---|--|
| General advice | Show this safety data sheet to the doctor in attendance. Immediate medical attention is required. |
| Inhalation | Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If breathing is difficult, (trained personnel should) give oxygen. Delayed pulmonary edema may occur. Get immediate medical advice/attention. |
| Eye contact | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice/attention. |
| Skin contact | Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get immediate medical advice/attention. |
| Ingestion | Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Get immediate medical advice/attention. |
| Self-protection of the first aider | Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing dust/fume/gas/mist/vapors/spray. Use personal protective equipment as required. See section 8 for more information. |

Most important symptoms and effects, both acute and delayed

| | |
|-----------------|--|
| Symptoms | Burning sensation. Coughing and/ or wheezing. Difficulty in breathing. |
|-----------------|--|

Indication of any immediate medical attention and special treatment needed

| | |
|---------------------------|--|
| Note to physicians | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. |
|---------------------------|--|

5. Fire-fighting measures

| | |
|---|--|
| Suitable Extinguishing Media | Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. |
| Large Fire | CAUTION: Use of water spray when fighting fire may be inefficient. |
| Unsuitable extinguishing media | Do not scatter spilled material with high pressure water streams. |
| Specific hazards arising from the chemical | The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. |
| Hazardous combustion products | Ammonia. Nitrogen oxides (NO _x). |
| Explosion data | |
| Sensitivity to mechanical impact | none. |
| Sensitivity to static discharge | none. |
| Special protective equipment for | Firefighters should wear self-contained breathing apparatus and full firefighting turnout |

fire-fighters

gear. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Attention! Corrosive material. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Avoid generation of dust. Do not breathe dust.

Other information Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. Avoid breathing vapors or mists.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Keep at a temperature not exceeding 25 °C. Excursions between 30 °C / 86 °F and 40 °C / 104 °F during shipping are allowed. Keep out of the reach of children. Protect from moisture. Store locked up. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here.

| Chemical name | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|----------------------|-------------------|--|--------------|
| Ammonia 7664-41-7 | No data available | 50 ppm TWA 35 mg/m ³ TWA | 300 ppm IDLH |

Appropriate engineering controls

Engineering controls Showers
Eyewash stations
Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Tight sealing safety goggles. Face protection shield.

| | |
|---------------------------------------|--|
| Hand protection | Wear suitable gloves. Impervious gloves. |
| Skin and body protection | Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. |
| Respiratory protection | No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required. |
| General hygiene considerations | Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid breathing dust/fume/gas/mist/vapors/spray. |

9. Physical and chemical properties

Information on basic physical and chemical properties

| | |
|-----------------------|--------------------------|
| Physical state | Liquid |
| Appearance | Clear |
| Color | Colorless |
| Odor | Strong |
| Odor threshold | No information available |

| <u>Property</u> | <u>Values</u> | <u>Remarks • Method</u> |
|---|--|-------------------------|
| pH | 11.6 - this is the actual pH in a 1 N solution | None known |
| Melting point / freezing point | -69.2 °C / -92.6 °F | None known |
| Boiling point / boiling range | 31 - 38 °C / 87.8 - 100.4 °F | None known |
| Flash point | no data available | None known |
| Evaporation rate | no data available | None known |
| Flammability (solid, gas) | no data available | None known |
| Flammability Limit in Air | | None known |
| Upper flammability or explosive limits | No data available | |
| Lower flammability or explosive limits | No data available | |
| Vapor pressure | 287.9 @ 25 °C | None known |
| Vapor density | no data available | None known |
| Relative density | 0.898 | None known |
| Water solubility | Soluble in water | None known |
| Solubility(ies) | no data available | None known |
| Partition coefficient | No data available | None known |
| Autoignition temperature | no data available | None known |
| Decomposition temperature | | None known |
| Kinematic viscosity | no data available | None known |
| Dynamic viscosity | No data available | None known |

Other information

| | |
|-----------------------------|--------------------------|
| Explosive properties | No information available |
| Oxidizing properties | No information available |
| Softening point | No information available |
| Molecular weight | 35.05 |
| VOC Content (%) | No information available |
| Liquid Density | No information available |
| Bulk density | No information available |

10. Stability and reactivity

| | |
|---------------------------|--|
| Reactivity | No information available. |
| Chemical stability | Stable under recommended storage conditions. |

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Exposure to air or moisture over prolonged periods. Excessive heat.

Incompatible materials Acids. Bases. Oxidizing agent.

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Corrosive by inhalation. (based on components). Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate. Inhaled corrosive substances can lead to a toxic edema of the lungs. Pulmonary edema can be fatal. May cause irritation of respiratory tract. Harmful by inhalation.

Eye contact Specific test data for the substance or mixture is not available. Causes serious eye damage. (based on components). Corrosive to the eyes and may cause severe damage including blindness. May cause irreversible damage to eyes.

Skin contact Specific test data for the substance or mixture is not available. Corrosive. (based on components). Causes burns.

Ingestion Specific test data for the substance or mixture is not available. Causes burns. (based on components). Ingestion causes burns of the upper digestive and respiratory tracts. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause lung damage if swallowed. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Redness. Burning. May cause blindness. Coughing and/ or wheezing.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 1,296.30 mg/kg
 ATEmix (inhalation-gas) 2,592.60 ppm
 ATEmix (inhalation-dust/mist) 1.86 mg/l

Unknown acute toxicity

0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Component Information

| Chemical name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|----------------------|---------------------|-------------|------------------------|
| Water 7732-18-5 | 90 mL/kg (Rat) | - | - |
| Ammonia 7664-41-7 | = 350 mg/kg (Rat) | - | = 2000 ppm (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|--|---|
| Skin corrosion/irritation | Classification based on data available for ingredients. Causes burns. |
| Serious eye damage/eye irritation | Classification based on data available for ingredients. Risk of serious damage to eyes. |
| Respiratory or skin sensitization | Causes burns. |
| Germ cell mutagenicity | No information available. |
| Reproductive toxicity | No information available. |
| STOT - single exposure | No information available. |
| STOT - repeated exposure | May cause respiratory irritation. |
| Target organ effects | No information available. |
| Aspiration hazard | respiratory system, Eyes, Skin. |
| Other adverse effects | No information available. |
| Interactive effects | No information available. |

12. Ecological information

Ecotoxicity

| Chemical name | Algae/aquatic plants | Fish | Toxicity to microorganisms | Crustacea |
|----------------------|----------------------|---|----------------------------|--------------------------------------|
| Ammonia 7664-41-7 | - | LC50: 0.26 - 4.6mg/L (96h, Lepomis macrochirus) LC50: 0.73 - 2.35mg/L (96h, Pimephales promelas) LC50: =0.44mg/L (96h, Cyprinus carpio) LC50: =1.17mg/L (96h, Lepomis macrochirus) LC50: =1.19mg/L (96h, Poecilia reticulata) LC50: =5.9mg/L (96h, Pimephales promelas) LC50: >1.5mg/L (96h, Poecilia reticulata) | - | LC50: =25.4mg/L (48h, Daphnia magna) |

| | |
|--------------------------------------|---------------------------|
| Persistence and degradability | No information available. |
| Bioaccumulation | Inherently biodegradable. |

Component Information

| Chemical name | Partition coefficient |
|----------------------|-----------------------|
| Ammonia 7664-41-7 | -1.14 |

| | |
|------------------------------|---------------------------|
| Other adverse effects | No information available. |
|------------------------------|---------------------------|

13. Disposal considerations

Waste treatment methods

| | |
|--|---|
| Waste from residues/unused products | Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation. |
| Contaminated packaging | Do not reuse empty containers. |

14. Transport information

DOT

| | |
|--|----------------------------------|
| UN/ID no | UN2672 |
| Proper Shipping Name: | Ammonia solution |
| Hazard class | 8 |
| Packing group: | III |
| Special Provisions | 336, IB3, IP8, T7, TP2 |
| Marine Pollutant | Severe Marine Pollutant |
| Description: | UN2672, Ammonia solution, 8, III |
| Emergency Response Guide Number | 154 |

TDG

| | |
|------------------------------|----------------------------------|
| UN-No: | UN2672 |
| Proper Shipping Name: | Ammonia solution |
| Hazard class | 8 |
| Packing Group: | III |
| Description: | UN2672, Ammonia solution, 8, III |

MEX

| | |
|-----------------------------|----------------------------------|
| UN-No | UN2672 |
| Proper Shipping Name | Ammonia solution |
| Hazard class | 8 |
| Packing Group | III |
| Description | UN2672, Ammonia solution, 8, III |

ICAO (air)

| | |
|------------------------------|----------------------------------|
| UN-No: | UN2672 |
| Proper Shipping Name: | Ammonia solution |
| Hazard class | 8 |
| Packing Group: | III |
| Special Provisions | A64 |
| Description: | UN2672, Ammonia solution, 8, III |

IATA

| | |
|-----------------------------------|----------------------------------|
| UN number | UN2672 |
| Proper Shipping Name: | Ammonia solution |
| Transport hazard class(es) | 8 |
| Packing group | III |
| Description: | UN2672, Ammonia solution, 8, III |

IMDG

| | |
|-----------------------------------|--|
| UN number | UN2672 |
| Proper shipping name | Ammonia solution |
| Transport hazard class(es) | 8 |
| Packing group | III |
| EmS-No | F-A, S-B |
| Marine pollutant | P |
| Description | UN2672, Ammonia solution, 8, III, Marine pollutant |

RID

| | |
|-----------------------------------|---|
| UN number | UN2672 |
| Proper Shipping Name: | Ammonia solution |
| Transport hazard class(es) | 8 |
| Packing group | III |
| Classification code | C5 |
| Special Provisions | 543 |
| Description: | UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS |
| Labels | 8 |

ADR

| | |
|-----------------------------------|------------------|
| UN number | 2672 |
| Proper Shipping Name: | Ammonia solution |
| Transport hazard class(es) | 8 |
| Packing group | III |

| | |
|--------------------------------|--|
| Classification code | C5 |
| Tunnel restriction code | (E) |
| Special Provisions | 543 |
| Description: | 2672, Ammonia solution, 8, III, (E), ENVIRONMENTALLY HAZARDOUS |
| Labels | 8 |

ADN

| | |
|-----------------------------------|---|
| UN/ID No | UN2672 |
| Proper shipping name | Ammonia solution |
| Transport hazard class(es) | 8 |
| Packing Group | III |
| Classification code | C5 |
| Special Provisions | 543 |
| Description | UN2672, Ammonia solution, 8, III, ENVIRONMENTALLY HAZARDOUS |
| Hazard label(s) | 8 |
| Limited quantity (LQ) | 5 L |
| Equipment Requirements | PP, EP |

15. Regulatory information

International Inventories

TSCA Complies

| | |
|----------------------|---|
| DSL/NDSL | Complies |
| EINECS/ELINCS | Complies |
| ENCS | This product complies with ENCS: |
| IECSC | This product complies with China: |
| KECL | Complies |
| PICCS | Complies |
| AICS | All the constituents of this material are listed on the Australian Inventory of Chemical Substances (AICS). |

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

| Chemical name | SARA 313 - Threshold Values % |
|---------------------|-------------------------------|
| Ammonia - 7664-41-7 | 1.0 |

SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

| Chemical name | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants | CWA - Hazardous Substances |
|---------------|-----------------------------|------------------------|---------------------------|----------------------------|
| Ammonia | - | - | - | Present |

| | | | | |
|-----------|--|--|--|--|
| 7664-41-7 | | | | |
|-----------|--|--|--|--|

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

| Chemical name | Hazardous Substances RQs | Extremely Hazardous Substances RQs |
|----------------------|-------------------------------------|------------------------------------|
| Ammonia 7664-41-7 | 100 lb final RQ 45.4 kg final RQ | - |

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated under applicable state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA

Health hazards 3

Flammability 0

Instability 0

Physical and chemical properties -

HMIS

Health hazards 3

Flammability 0

Physical hazards 0

Personal protection X

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
Ceiling Maximum limit value

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
EPA (Environmental Protection Agency)
Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
Hazardous Substance Database
International Uniform Chemical Information Database (IUCLID)
Japan GHS Classification
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
NIOSH (National Institute for Occupational Safety and Health)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine's PubMed database (NLM PUBMED)
National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
Organization for Economic Co-operation and Development High Production Volume Chemicals Program
Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date

30-September-2021

Revision Note

No information available.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet



Certification of Compliance with current Good Manufacturing Practices

Dear Valued Customer:

Spectrum Chemical Mfg Corp certifies that the following product(s) is produced, processed, packaged and held in compliance with current Good Manufacturing Practices (cGMP) in accordance with the applicable parts of 21 CFR, parts 210 and 211 of the Code of Federal Regulations.

| Catalog Number | Product Name |
|----------------|-----------------------------|
| AM180 | Strong Ammonia Solution, NF |

Spectrum is an FDA registered and inspected Drug Establishment. Our United States Food and Drug Administration (USFDA) Registration numbers are as follows:

Spectrum-Gardena, CA: 2020632
Spectrum-New Brunswick, NJ: 2246824

Thank you for your interest in Spectrum products. If we may be of further assistance, please feel free to contact the Quality Assurance department at 310-516-8000 or via email at qualityassurance@spectrumchemical.com

Sincerely,

A handwritten signature in black ink, appearing to read "Oralia Chavez".

Oralia Chavez
Quality Assurance Specialist

AM180, Strong Ammonia Solution, NF

Source Statement

The above mentioned catalog item is manufactured by chemical synthesis. No animal or plant derived products are used in the manufacturing process.

BSE/TSE Statement

The above mentioned catalog item does not contain nor is manufactured using any animal derived products and is therefore, BSE/TSE free.

Allergen Statement

The above mentioned catalog item does not contain any of the following:

- Milk
- Egg
- Fish
- Shellfish
- Tree Nuts
- Wheat
- Peanuts
- Soy
- Cereals containing Gluten
- Celery
- Mustard
- Sesame Seed
- Corn
- Latex
- Sulfites > 10 ppm

EU Fragrance Allergen Statement

The above mentioned catalog item does not contain any of the 26 EU fragrance allergens listed in Annex III lines 67-92. These substances are not intentionally added to the following chemical and therefore are not expected to be present.

GMO Statement

The above mentioned catalog item is manufactured without the use of genetically modified organisms and is therefore GMO free.

Melamine Statement

The above mentioned catalog does not use or add melamine to the manufacturing process and is considered melamine-free.

Nitrosamine Statement

Based on knowledge of the manufacturing process, nitrosamine impurities are not known or suspected to be present in this material.

Animal Testing Statement

The above mentioned catalog item has not been tested on animals.

Organic Compliance Statement

The above mentioned catalog item has not been produced using GMOs, irradiation, ethylene oxide (EtO) or sewage sludge.

Shelf Life Statement

The above mentioned catalog item is typically assigned a shelf life of 60 months from the date of manufacture. The actual assigned shelf life for any specific lot should be referenced on the Certificate of Analysis.

Other Chemicals Statement

Spectrum does not have any reason to suspect the above mentioned catalog item contains any of the following chemicals. This product does not come into contact with these chemicals during packaging or storage:

- | | |
|---------------------|-----------------|
| • Aflatoxins | • Parabens |
| • Antibiotics | • Pesticides |
| • Bisphenol A (BPA) | • Phthalates |
| • CMR Substances | • Preservatives |



RE: Elemental Impurities - Strong Ammonia Solution, NF (Cat# AM180)

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above mentioned material complies with the USP<232>, <233> Elemental Impurities and the ICH Q3D Elemental Impurities Guideline. No Class 1, Class 2A, Class 2B or Class 3 elemental impurities are likely to be present. These substances are not used in the production process, are not intentionally added or known to be present in the above mentioned material.

This information is subject to change and is intended for risk assessment only. It is responsibility of the end user to evaluate suitability of any chemical for the intended use as well as to assess compound-specific limits of daily intake of metal impurities. For lot-specific information, please refer to the respective Certificate of Analysis.

If you have any further questions, please contact us by telephone at 1(800)772-8786 Option 2, or by email at TechServices@spectrumchemical.com.

Sincerely,

Technical Services
Spectrum Chemical Mfg. Corp.

This document has been produced electronically and is valid without a signature.

CORPORATE HEADQUARTERS

769 Jersey Avenue
New Brunswick, NJ 08901
PHONE 732.214.1300
FAX 732.246.7132

WEST COAST FACILITY

14422 South San Pedro Street
Gardena, California 90248
PHONE 310.516.8000
FAX 310.516.9843



RE: Residual Solvents - Strong Ammonia Solution, NF (Cat# AM180)

To Whom It May Concern:

Thank you for your interest in Spectrum high quality chemicals.

The above mentioned catalog item complies with the requirements of the USP <467> Residual Solvents and the ICH Q3C Residual Solvents Guideline. No Class 1, Class 2, Class 3 or other solvents are used or produced in the manufacture of this product.

For lot-specific information, please refer to the respective Certificate of Analysis.

If you have any further questions, please contact us by telephone at 1(800)772-8786 Option 2, or by email at TechServices@spectrumchemical.com.

Sincerely,

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Gardena, California 90248
PHONE 310.516.8000
FAX 310.516.9843

Label Information

The Spectrum label presents technical and safety information in an easily understood format. Our technical specialists stay abreast of the latest requirements of the Globally Harmonized System for Classification and Labelling of Chemicals (GHS), as well as the Occupational Safety and Health Administration (OSHA), the Food and Drug Administration (FDA) and other government regulatory agencies in order to ensure compliance, accuracy and concise hazard communication. Below you will find a typical label example for this catalog item.



Exp. Date: 00-00-0000



AM180 SIZ SY

Strong Ammonia Solution

(Aqueous Ammonia;
Ammonium Hydroxide)

N.F.
CAS 1336-21-6

NH₃(aq) F.W. 17.03

DANGER

- Causes severe skin burns and eye damage • Harmful if swallowed or if inhaled • May cause respiratory irritation.
- Do not eat, drink or smoke when using this product
- Wear protective gloves, protective clothing, eye protection, face protection • Do not breathe mist or vapors • Use only outdoors or in a well-ventilated area
- Wash face, hands and any exposed skin thoroughly after handling.

FIRST AID: Immediately call a POISON CENTER or physician. IF IN EYES: Rinse cautiously with water for several 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. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. If conscious, give water or milk. Never give anything by mouth to an unconscious person.

KEEP FROM CHILDREN

CAUTION: For manufacturing, processing or repacking. Read and understand the label and Safety Data Sheet (SDS) prior to use.

DOT: UN2672, Ammonia, solution, 8, PG III

Chemical Emergency: (800)424-9300

www.SpectrumChemical.com

Components:

Water CAS 7732-18-5

Ammonia CAS 7664-41-7

Assay (NH₃; by Wt.) 27.0-31.0%

MAXIMUM LIMITS

Nonvolatile Residue 0.05%

Elemental Impurities As reported

Readily Oxidizable Substances To pass test

Residual Solvents To pass test

Store below 26°C.

WARNING: Cancer and Reproductive Harm-
www.P65Warnings.ca.gov

W 11/G11GHS ? Lot No. XQ####

Spectrum Chemical Mfg Corp

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