

EXAXOL CHEMICAL CORPORATION

A0066 - Ammonium Hydroxide 28%

Revision nr. 1

Dated 2/7/2015

Printed on 7/10/2015

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Safety data sheet according to U.S.A. Federal Hazcom 2012

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Code: A0066
 Product name: Ammonium Hydroxide 28%
 INDEX number: 007-001-01-2
 EC number: 215-647-6
 CAS number: 1336-21-6

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

Intended use For Laboratory Use Only.

1.3. Details of the supplier of the safety data sheet

Name: EXAXOL CHEMICAL CORPORATION
 Full address: 14325 60 TH ST N
 District and Country: 33760 CLEARWATER - FLORIDA
 US
 Tel. 1-727-524-7732
 Fax 1-727-532-8221

e-mail address

info@exaxol.com

1.4. Emergency telephone number

For urgent inquiries refer to
 1-800-255-3924
 ChemTel Inc.

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200). The product thus requires a safety datasheet.
 Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification and Hazard Statement.

Skin corrosion, category 1B
 Serious eye damage, category 1
 Specific target organ toxicity - single exposure, category 3

Causes severe skin burns and eye damage.
 Causes serious eye damage.
 May cause respiratory irritation.



Signal words: Danger

Hazard statements:

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H314 Causes severe skin burns and eye damage.
 H335 May cause respiratory irritation.

Precautionary statements:

Prevention:

P260 Do not breathe dust / fume / gas / mist / vapours / spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves / protective clothing / eye protection / face protection.

Response:

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 POISON CENTER / doctor.
 P321 Specific treatment (see label).
 P363 Wash contaminated clothing before reuse.

Storage:

P403+P233 Store in a well-ventilated place. Keep container tightly closed.
 P405 Store locked up.

Disposal:

P501 Dispose of contents / container to an approved waste disposal plant.

2.2. Other hazards.

Environmental classification as for Reg. (EU) 1272/2008 (CLP):

The product is classified as hazardous for environment pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP).

Classification and Hazard Statement.

Hazardous to the aquatic environment, acute toxicity, category 1 Very toxic to aquatic life.



Signal words: Warning

Hazard statements:

H400 Very toxic to aquatic life.

Precautionary statements:

Prevention:
 P273 Avoid release to the environment.
 Response:
 P391 Collect spillage.

Storage:

Disposal:
 P501 Dispose of contents / container to . . .

SECTION 3. Composition/information on ingredients.

Additional hazards:

3.1. Substances.

Contains:

The full wording of hazard (H)-phrases is given in section 16 of the sheet.

Identification.	Conc. %.	Classification:
AMMONIA	100	Skin corrosion, category 1B H314. Specific target organ toxicity - single exposure, category 3 H335, Hazardous to the aquatic environment, acute toxicity, category 1 H400 M=1

3.2. Mixtures.

3.2. Mixtures.

Information not relevant.

SECTION 4. First aid measures.

Information not available.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

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

For symptoms and effects caused by the contained substances, see chap. 11.

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

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.

SECTION 3. Composition/information on ingredients.

Additional hazards:

3.1. Substances.

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SECTION 7. Handling and storage.

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7.1. Precautions for safe handling.

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

TLV-ACGIH ACGIH 2014

AMMONIA

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH	-	17	25	24	35

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must comply with current regulations.

HAND PROTECTION

Protect hands with category III work gloves (OSHA 29 CFR 1910.138).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability.

The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (OSHA 29 CFR 1910.133).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, wear a mask with a NIOSH certified filter, whose class must be chosen according to the limit of use concentration (NIOSH 42 CFR 84, OSHA 29 CFR 1910.134). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear

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open-circuit compressed air breathing apparatus or external air-intake breathing apparatus. For a correct choice of respiratory protection device, see standard NIOSH 42 CFR 84 and OSHA 29 CFR 1910.134.

ENVIRONMENTAL EXPOSURE CONTROLS.

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	Not available.
Colour	Not available.
Odour	Not available.
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.
Flash point.	> 93 °C.
Evaporation Rate	Not available.
Flammability of solids and gases	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	Not available.
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

Information not available.

SECTION 10. Stability and reactivity.

10.1. Reactivity.

There are no particular risks of reaction with other substances in normal conditions of use.

AMMONIA: corrodes aluminium, iron, zinc, copper and their alloys.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

Biodegradability: Information not available.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

AMMONIA: risk of explosion on contact with strong acids and iodine. Can react dangerously with strong bases.

10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials.

AMMONIA: silver, lead, zinc and their salts; hydrochloric acid, nitric acid, oleum, halogens, acrolein, nitromethane and acrylic acid.

10.6. Hazardous decomposition products.

AMMONIA: nitric oxides.

AMMONIA: nitric oxides.

SECTION 11. Toxicological information.

11.1. Information on toxicological effects.

This product is corrosive and causes serious burns and vesicles on the skin, which can arise even after exposure. Burns are very stinging and painful. Upon contact with eyes, it may cause serious harm, such as cornea opacity, irreversible eye coloration. The vapors and/or powders are cause for the respiratory system and may cause pulmonary edema, whose symptoms sometimes arise only after some hours. Exposure symptoms may include: stinging, cough, asthma, laryngitis, respiratory disorders, headache, nausea and sickness. If swallowed, it may cause mouth, throat and oesophagus burns, sickness, diarrhoea, edema, larynx swelling and, consequently, asphyxia. Perforation of the gastro-intestinal tract is also possible. This product may cause serious ocular lesions, cornea opacity, iris lesions, irreversible eye coloration. Acute effects: inhalation of this product may irritate the lower and upper respiratory tract and cause cough and respiratory disorders; at higher concentrations it can also cause pulmonary edema. Ingestion may cause health problems, including stomach pain and stinging, nausea and sickness.

SECTION 12. Ecological information.

AMMONIA
LD50 (Oral): 350 mg/kg Rat

12.1. Toxicity.
This product is dangerous for the environment and highly toxic for aquatic organisms.

AMMONIA
LC50 - for Fish:
47 mg/l/96h Channa punctata
EC50 - for Crustacea:
20 mg/l/48h Daphnia magna


12.2. Persistence and degradability.

AMMONIA

14.1. UN number.
ADR / RID, IMDG, IATA: UN. 2672

14.2. UN proper shipping name.
ADR / RID: AMMONIA SOLUTION
IMDG: AMMONIA SOLUTION
IATA: AMMONIA SOLUTION

14.3. Transport hazard class(es).
ADR / RID: Class: 8
Label: 8



SECTION 14. Transport information.

Reuse, when possible. Neat product residues should be considered special non-hazardous waste. Disposal must be performed through an authorized waste management firm, in compliance with national and local regulations. Waste transportation may be subject to dangerous goods transport regulations. CONTAMINATED PACKAGING Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 13. Disposal considerations.

13.1. Waste treatment methods.

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12.5. Results of PB and vPB assessment.

On the basis of available data, the product does not contain any PB or vPB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

12.4. Mobility in soil.

Information not available.

12.3. Bioaccumulative potential.

Information not available.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

AMMONIA: risk of explosion on contact with strong acids and iodine. Can react dangerously with strong bases.

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None in particular. However the usual precautions used for chemical products should be respected.

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IMDG: Class: 8 Label: 8



IATA: Class: 8 Label: 8

14.4. Packing group.

ADR / RID, IMDG, IATA: III

14.5. Environmental hazards.

ADR / RID: NO

14.6. Special precautions for user.

ADR / RID:	Nr. Kemler: 80	Limited Quantity 5 L	Tunnel restriction code (E)
	Special Provision: -		
IMDG:	EMS: F-A, S-B	Limited Quantity 5 L	
IATA:	Cargo:	Maximum quantity: 60 L	Packaging instructions: 856
	Pass.:	Maximum quantity: 5 L	Packaging instructions: 852
	Special Instructions:	A64, A803	

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code.

Information not relevant.

SECTION 15. Regulatory information.

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.

U.S. Federal Regulations.

TSCA:

All components are listed on TSCA Inventory.

Clean Air Act Section 112(b):

No component(s) listed.

Clean Air Act Section 602 Class I Substances:

No component(s) listed.

Clean Air Act Section 602 Class II Substances:

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No component(s) listed.

Clean Water Act – Priority Pollutants:

No component(s) listed.

Clean Water Act – Toxic Pollutants:

No component(s) listed.

DEA List I Chemicals (Precursor Chemicals):

No component(s) listed.

DEA List II Chemicals (Essential Chemicals):

No component(s) listed.

EPA List of Lists:

313 Category Code:

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EPCRA 302 EHS TPQ:

No component(s) listed.

EPCRA 304 EHS RQ:

No component(s) listed.

CERCLA RQ:

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EPCRA 313 TRI:

1336-21-6 AMMONIA

RCRA Code:

No component(s) listed.

CAA 112 (r) RMP TQ:

No component(s) listed.

State Regulations.

Massachusetts:

1336-21-6 AMMONIA

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H338 May cause respiratory irritation.
H400 Very toxic to aquatic life.

LEGEND:
 - 313 CATEGORY CODE: Emergency Planning and Community Right-to-Know Act Section 313 Category Code
 -ADR: European Agreement concerning the carriage of Dangerous goods by Road
 -GAA 112 RMP TC: Risk Management Plan Threshold Quantity (Clean Air Act Section 112@)
 -CAS NUMBER: Chemical Abstract Service Number
 -CE50: Effective concentration (required to induce a 50% effect)
 -CERCLA RC: Reportable Quantity (Comprehensive Environment Response, Compensation, and Liability Act)
 -CLP: EC Regulation 1272/2008
 -DEA: Drug Enforcement Administration
 -Ems: Emergency Schedule
 -EPA: US Environmental Protection Agency
 -EPCRA: Emergency Planning and Community Right-to-Know Act
 -EPCRA 302 EHS TPC: Extremely Hazardous Substance Threshold Planning Quantity (Section 302 Category Code)
 -EPCRA 304 EHS RC: Extremely Hazardous Substance Reportable Quantity (Section 304 Category Code)
 -EPCRA 313 TRI: Toxics Release Inventory (Section 313 Category Code)
 -GHS: Globally Harmonized System of classification and labeling of chemicals
 -IA17A DGR: International Air Transport Association Dangerous Goods Regulation
 -IC50: Immobilization Concentration 50%
 -IMDG: International Maritime Code for dangerous goods
 -IMCO: International Maritime Organization
 -LC50: Lethal Concentration 50%
 -LD50: Lethal dose 50%
 -OEL: Occupational Exposure Level
 -PEL: Predicted exposure level
 -RCRA Code: Resource Conservation and Recovery Act Code
 -REL: Recommended exposure limit
 -RID: Regulation concerning the international transport of dangerous goods by train
 -TLV: TLV: Threshold Limit Value
 -TLV CELLING: Concentration that should not be exceeded during any time of occupational exposure
 -TSCA: Toxic Substances Control Act
 -TWA STEL: Short-term exposure limit
 -TWA: Time-weighted average exposure limit
 -VOC: Volatile organic Compounds
 -WHMIS: Workplace Hazardous Materials Information System.
GENERAL BIBLIOGRAPHY:
 -GHS rev. 3
 -The Merck Index, 10th Edition
 -Handling Chemical Safety
 -Mosh - Registry of Toxic Effects of Chemical Substances
 -NRS - Fiche Toxicologique (toxicological sheet)
 -NIH - Industrial Hygiene and Toxicology
 -NI 38x - Dangerous properties of Industrial Materials-7, 1989 Edition
 -ECHA website
 -6 NYCRR part 597
 -Cal/OSHA website
 -EPA website
 -California Safe Drinking Water and Toxic Enforcement Act
 -IARC website
 -Hazard Communication Standard (HCS 2012)
 -List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112@ of the Clean Air Act
 -Massachusetts 105 CMR Department Of Labor and Industry Hazardous Substances, Employee "Right to Know"
 -Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know",
 -NTP, 2011, Report on Carcinogens, 12th Edition.
 -OSHA website
 -Pennsylvania, Hazardous Substance List, Chapter 323
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 -This document must not be regarded as a guarantee on any specific product property.
 -The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

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 -ECHA website
 -6 NYCRR part 597
 -Cal/OSHA website
 -EPA website
 -California Safe Drinking Water and Toxic Enforcement Act
 -IARC website
 -Hazard Communication Standard (HCS 2012)
 -List Of Lists EPA: Consolidated List of Chemicals Subject to EPCRA, CERCLA and Section 112@ of the Clean Air Act
 -Massachusetts 105 CMR Department Of Labor and Industry Hazardous Substances, Employee "Right to Know"
 -Minnesota Chapter 5206 Department Of Labor and Industry Hazardous Substances, Employee "Right to Know",
 -NTP, 2011, Report on Carcinogens, 12th Edition.
 -OSHA website
 -Pennsylvania, Hazardous Substance List, Chapter 323
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SECTION 16. Other information.

Text of hazard (+) indications mentioned in section 2-3 of the sheet:
 Skin Corr. 1B
 Skin Corrosion, category 1B
 Skin Corrosion, category 1C
 Eye Dam. 1
 Eye Irritation, category 1
 Serious eye damage, category 1
 Eye Irritation, category 2
 Skin Irritation, category 2
 Skin Irritation, category 2
 Specific target organ toxicity - single exposure, category 3
 Hazardous to the aquatic environment, acute toxicity, category 1
 Aquatic Acute 1
 H314
 Causes severe skin burns and eye damage.
 H318
 Causes serious eye damage.
 H319
 Causes serious eye irritation.
 H335
 Causes skin irritation.

Information not available.

Candian WHMIS:

None.

Substances subject to the Stockholm Convention.

None.

Substances subject to the Rotterdam Convention.

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012.

International Regulations.

Proposition 65:

AMMONIA

California:

AMMONIA

Pennsylvania:

AMMONIA

New York:

AMMONIA

New Jersey:

No component(s) listed.

Minnesota:

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Provide appointed staff with adequate training on how to use chemical products.



WORLDWIDE TRANSPORTATION SERVICES

12345 Main Street, Suite 100

San Francisco, CA 94102

Phone: (415) 555-1234

Fax: (415) 555-5678

Email: info@worldwide.com

Website: www.worldwide.com

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