

SAFETY DATA SHEET

1. Identification

Product identifier: AMMONIUM CHLORIDE

Other means of identification

Product No.: 3384, 3364, 0660

Recommended use and restriction on use

Recommended use: Not available.

Restrictions on use: Not known.

Details of the supplier of the safety data sheet

| | | |
|-------------------------|--------------------------------------|------------|
| Company name | Libyan Oil & Gas Services-LOG. | Integrated |
| Address | Tripoli-Libya | |
| Telephone e-mail | +218919720049 sales@log-libya.com | |

2. Hazard(s) identification

Hazard Classification

Health Hazards

Acute toxicity(Oral) Category 4

Serious Eye Damage/Eye Irritation Category 2A

Label Elements

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Hazard Symbol:



| | |
|--|--|
| Signal Word: | Warning |
| Hazard Statement: | Harmful if swallowed. Causes serious eye irritation. |
| Precautionary Statement | |
| Prevention: | Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection. |
| Response: | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. |
| Disposal: | Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal. |
| Other hazards which do not result in GHS classification: | None. |

3. Composition/information on ingredients

Substances

| Chemical Identity | Common name and synonyms | CAS number | Content in percent (%)* |
|----------------------|--------------------------|------------|-------------------------|
| AMMONIUM CHLORIDE | | 12125-02-9 | 99 - 100% |

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

| | |
|----------------------|--|
| General information: | Get medical advice/attention if you feel unwell. Show this safety data sheet to the doctor in attendance. |
| Ingestion: | Rinse mouth. Get medical attention if symptoms occur. |
| Inhalation: | Move to fresh air. Get medical attention if symptoms persist. |
| Skin Contact: | Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing. |
| Eye contact: | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if symptoms persist. |

Most important symptoms/effects, acute and delayed

Symptoms: Harmful if swallowed. Causes serious eye irritation.

Indication of immediate medical attention and special treatment needed

Treatment: Treat symptomatically. Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: In case of fire and/or explosion do not breathe fumes.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: None known.

Specific hazards arising from gases. the chemical: Fire may produce irritating, corrosive and/or toxic

Special protective equipment and precautions for firefighters

Special fire fighting procedures: Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

Special protective equipment including flame for fire-fighters: Firefighters must use standard protective equipment retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures: Keep unauthorized personnel away. Keep upwind. Ventilate closed spaces before entering them. Avoid inhalation of dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Methods and material for containment and cleaning up: Sweep up and place in a clearly labeled container for chemical waste. Clean surface thoroughly to remove residual contamination.

Notification Procedures: Inform authorities if large amounts are involved. Prevent entry into waterways, sewer, basements or confined areas.

Environmental Precautions: Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid inhalation of dust. Do not taste or swallow. Do not eat, drink or smoke when using the product. Use only with adequate ventilation. Wash thoroughly after handling. See Section 8 of the SDS for Personal Protective Equipment.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in a well-ventilated place.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

| Chemical Identity | Type | Exposure Limit Values | Source |
|--------------------------|------|-----------------------|--|
| AMMONIUMCHLORIDE - Fume. | TWA | 10 mg/m ³ | US- ACGIH Threshold Limit Values (2011) |
| | STEL | 20 mg/m ³ | US- ACGIH Threshold Limit Values (2011) |
| | REL | 10 mg/m ³ | US- NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | STEL | 20 mg/m ³ | US- NIOSH: Pocket Guide to Chemical Hazards (2010) |
| | STEL | 20 mg/m ³ | US- OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |
| | TWA | 10 mg/m ³ | US- OSHA Table Z-1-A (29 CFR 1910.1000) (1989) |

Appropriate Engineering Controls: No data available. Controls

Individual protection measures, such as personal protective equipment

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| | |
|-------------------------|---|
| General information: | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area. |
| Eye/face protection: | Use tight fitting goggles if dust is generated. |
| Skin Protection | |
| Hand Protection: | Use suitable protective gloves if risk of skin contact. |
| Other: | Wear suitable protective clothing. |
| Respiratory Protection: | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Air-purifying respirator with a high efficiency particulate filter. |
| Hygiene measures: | Provide eyewash station and safety shower. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. |

9. Physical and chemical properties

Appearance

| | |
|--|-----------------------------|
| Physical state: | Solid |
| Form: | Granular powder |
| Color: | White |
| Odor: | Odorless |
| Odor threshold: | No data available. |
| pH: | 5.5(25°C)1%Aqueous solution |
| Melting point/freezing point: | > 300 °C |
| Initial boiling point and boiling range: | 520 °C |
| Flash Point: | |
| Evaporation rate: | |

Flammability (solid, gas): Not applicable
No data
available.
Noncombustible Solid

Upper/lower limit on flammability or explosive limits

| | |
|--|---|
| Flammability limit - upper (%): | Nodata available. |
| Flammability limit - lower (%): | Nodata available. |
| Explosive limit - upper (%): | Nodata available. |
| Explosive limit - lower (%): | Nodata available. |
| Vapor pressure: | Nodata available. |
| Vapor density: | Nodata available. |
| Relative density: | Nodata available. |
| Solubility(ies) | 0.13kPa (160.4 °C)No data available. |
| Solubility in water: | |
| Solubility (other): | |
| Partition coefficient (n-octanol/water): | 1.53(25 °C) |
| Auto-ignition temperature: | Completely Soluble No data available. |
| Decomposition temperature: | No data available. No data available. No data available. 338 °C |
| Viscosity: | No data available. |

Other information

Molecular weight: 53.5 g/mol (ClH4N)

10. Stability and reactivity

| | |
|-------------------------------------|---|
| Reactivity: | No dangerous reaction known under conditions of normal use. |
| Chemical Stability: | Material is stable under normal conditions. |
| Possibility of Hazardous Reactions: | Hazardous polymerization does not occur. |
| Conditions to Avoid: | Excessive heat. Moisture. |
| Incompatible Materials: | Strong oxidizing agents. Strong acids. Nitrates. Potassium. Copper. Halogens. |
| Hazardous Decomposition Products: | ammonia Nitrogen Oxides hydrogen chloride |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------|---|
| Ingestion: | Harmful if swallowed. |
| Inhalation: | May cause irritation to the respiratory system. |
| Skin Contact: | May cause irritation. |
| Eye contact: | Causes serious eye irritation. |

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: LD 50 (Rat): 1,650

Dermal Product: mg/kg No data

Inhalation Product: available.

Repeated Dose Toxicity Product: No data available.

Skin Corrosion/Irritation Product: No data available.

May cause skin irritation.

Serious Eye Damage/Eye Irritation

Product: Causes serious eye irritation.

Respiratory or Skin Sensitization

Product: Not a skin sensitizer.

Carcinogenicity Product: This substance has no evidence of carcinogenic properties.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No mutagenic components identified

In vivo Product:
Reproductive Toxicity Product: No mutagenic components identified

No components toxic to reproduction

Specific Target Organ Toxicity - Single Exposure

Product: None known.

Specific Target Organ Toxicity - Repeated Exposure

Product: None known.

Aspiration Hazard

Product: Not classified

Other Effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Aquatic Invertebrates

Product: No data available.

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: Expected to be readily biodegradable.

BOD/COD Ratio

Product: No data available.

Bioaccumulative Potential

Bioconcentration Factor (BCF)

Product: Nodata available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)

Product: No data available.

No data available.

Mobility in Soil:

Other Adverse Effects:

The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

13. Disposal considerations

| | |
|-------------------------|---|
| Disposal instructions: | Discharge, treatment, or disposal may be subject to national, state, or local laws. |
| Contaminated Packaging: | Since emptied containers retain product residue, follow label warnings even after container is emptied. |

14. Transport information

DOT

Not regulated.

IMDG

Not regulated.

IATA

Not regulated.

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) None present or none present in regulated quantities.



CERCLA Hazardous Substance List (40 CFR 302.4):

AMMONIUM CHLORIDE Reportable quantity: 5000 lbs.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Acute (Immediate) Chronic (Delayed) Fire Reactive Pressure Generating

SARA 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

Chemical Identity RQ

AMMONIUM CHLORIDE 5000 lbs.

SARA 311/312 Hazardous Chemical

Chemical Identity Threshold Planning Quantity

AMMONIUM CHLORIDE 500 lbs

SARA 313 (TRI Reporting)

Chemical Identity Reporting threshold for other users Reporting threshold for manufacturing and processing

AMMONIUM CHLORIDE 10000 lbs 25000 lbs.



Clean Water Act Section 311 Hazardous Substances(40 CFR 117.3)
AMMONIUMCHLORIDE Reportable quantity: 5000 lbs.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130): None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

No ingredient regulated by CA Prop 65 present.

US. New Jersey Worker and Community Right-to-Know Act

AMMONIUM CHLORIDE Listed

US. Massachusetts RTK - Substance List

AMMONIUM CHLORIDE Listed

US. Pennsylvania RTK - Hazardous Substances

AMMONIUM CHLORIDE Listed

US. Rhode Island RTK

AMMONIUM CHLORIDE Listed

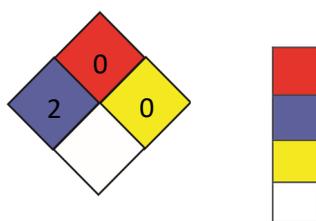
Inventory Status:

| | | |
|----------------------------|--------------------------|-----|
| Australia AICS: | On or in compliance with | the |
| | inventory | |
| Canada DSL Inventory List: | On or in compliance with | the |
| | inventory | |
| EINECS, ELINCS or NLP: | On or in compliance with | the |
| | inventory | |

| | |
|--|--|
| Japan (ENCS) List: | On or in compliance with the inventory |
| China Inv. Existing Chemical Substances: | Not in compliance with the inventory. |
| Korea Existing Chemicals Inv. (KECI): | On or in compliance with the inventory |
| Canada NDSL Inventory: | Not in compliance with the inventory. |
| Philippines PICCS: | On or in compliance with the inventory |
| US TSCA Inventory: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | On or in compliance with the inventory |
| Japan ISHL Listing: | On or in compliance with the inventory |
| Japan Pharmacopoeia Listing: | Not in compliance with the inventory. |

16. Other information, including date of preparation or last revision

NFPA Hazard ID



Flammability
Health
Reactivity
Special hazard.

Hazard rating: 0 - Minimal; 1 - Slight; 2 - Moderate; 3 - Serious; 4 - Severe

Issue Date: 02-23-2015

Revision Date: No data available.

Version #: 2.0

Further Information: No data available.

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