Material Safety Data Sheet

Ammonia Solution A.R.Grade (RXSOL-60-6137-500)

1. Product and Company Identifaction

Product Name	Ammonia Solution A.R. Grade
Part Number	RXSOL-60-6137-500

Company Details:
RX MARINE INTERNATIONAL
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VASHI ,NEW BOMBAY 400703 INDIA

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Email	123@rxmarine.com
Website	www.rxmarine.com

2. Composition / informationon ingredients

Name of Substance	Cas Number	EC Num
Ammonia Solution	1336-21-6	215-647

3. Hazards Identification

Signal Word	Danger
Hazard Statements	H290 May be corrosive to metals. H314 Causes severe skin burns and eye damage. H335 May cause respiratory irritation. H400 Very toxic to aquatic life
Precautionary statements - prevention	P273 Avoid release to the environment. P280 Wear protective gloves/ protective clothing/ eye protection/ face protection. P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Precautionary statements - response	P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contactlenses, if present and easy to do. Continue rinsing. P308 + P310 IF exposed or concerned: immediately call a POISON CENTER or doctor/ physician.

4. First Aid Measures

Skin Contact	Immediately flush with plenty of water for at least 15 minutes. Remove contaminated clothing. Remove material from skin and clothing. Get medical attention. Wash clothing before reuse. Immediate medical attention is not required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse imme diately with plenty of water and seek medical advice.

Inhalation:	Remove patient to fresh air. If not breathing, give artificial respiration. If breathing is difficulty, give oxygen. Immediate medical attention is not required.
Ingestion:	Do not induce vomiting. Get medical attention immediately.. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Treat symptomatically based on individual reactions of patient and judgement of doctor. Removal and handling of clothing & shoes from the individual is recommended. PPE (Personal Protective Equipment) for first-aid is recommended.
Most important symptoms and effects, both acute and delayed	Irritation and corrosion, bronchitis, Cough, Shortness of breath, gastric pain, Unconsciousness,Bloody vomiting, Nausea, collapse, shock, Convulsions, Lung oedema, death Risk of blindness!

5. Fire-fighting Measures

Flammability of the Product	Non Flammable.
Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Cool closed containers exposed to fire with water spray.
Unsuitable extinguishing media	For this substance/mixture no limitations of extinguishing agents are given.
Flash Point	Not Available
AutoignitionTemperature	Not Available
Explosion Limits Uper	Not Available
Explosion Limits Lower	Not Available
Sensitivity to Mechanical Impact	No information available
Sensitivity to Static Discharge	No information available
Specific Hazards Arising from the Chemical	Combustion products may include carbon oxides or other toxic vapors.Thermal decomposition can lead to release of irritating gases and vapors.Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.
Hazardous Combustion Products	Carbon monoxide (CO) Carbon dioxide (CO2) Nitrogen oxides (NOx)
Protective Equipment and Precautions for Firefighters	Special protective equipment for firefighters.Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
Further Information	Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. Accidental Release Measures

Small Spillage	Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of acetic acid.
Personal Protection	Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert..
Enviromental Precaution	Environmental Precautions Should not be released into the environment. Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning	If in a laboratory setting, follow Chemical Hygiene Plan procedures.Place into properly labeled containers for recovery or disposal. If necessary, use trained response staff/contractor.Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Collect solids in powder form using vacuum with (HEPA filter)

7. Handling and Storage

Handling	Wash hands after handling. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke, or use personal products when handling chemical substances. If in a laboratory setting, follow Chemical Hygiene Plan.Use only in well ventilated areas.Avoid contact with eyes, skin, and clothing.
Storage	Provide ventilation for containers. Avoid storage near extreme heat, ignition sources or open flame. Store away from foodstuffs. Store away from oxidizing agents.Store in cool, dry conditions in well sealed containers. Store with like hazards.
Hygiene measures	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

8. Exposure controls and personal protection

Engineering Control	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.
Personal Protection	**Eye/face Protection** : Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. **Skin and body protection** : Wear appropriate protective gloves and clothing to prevent skin exposure. Long sleeved clothing.Flame retardant antistatic protective clothing. **Respiratory Protection** : Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice.
Exposure Limits	No occupational exposure limits established.



Gloves



Suit

9. Physical and chemical properties

Form	Liquid
Colour	Clear
Odour	Ammonia
Odor Threshold	0.02 - 70.7 ppm Ammonia
pH	9
Melting Point	-57.5 °C
Boiling Point	37.7 °C at 1,013 hPa
Flash Point	Not Applicable
Evaporation Rate	Not Applicable
Flammability (solid, gas)	Not Applicable
Vapour pressure	483 hPa at 20 °C
Vapour Density	No Data Available
Secific Gravity	0.903 g/cm3 at 20 °C
Lower explosion limit	15.4 %(V)
Upper explosion limit	33.6 %(V)
Autoignition Temperature	No Data Available
Solubility	Soluble
Viscosity	No Data Available
Decomposition temperature	No information available
Auto-ignition temperature	No information available
Explosive properties	Not classified as explosive.
Oxidizing properties	None

10. Stability and reactivity

Recativity Hazard	May be corrosive to Metal
Stability	Product is stable.
Possibility of hazardous reactions	A risk of explosion and/or of toxic gas formation exists with the following substances: Oxidizing agents, Mercury, Oxygen, silver compounds, nitrogen trichloride, hydrogen peroxide, silver, antimony hydride, halogens, Acids, Calcium, Chlorine, Chlorites, auric salts, perchlorates, sodium hypochlorite, mercury compounds, halogen oxides Heavy metals, Heavy metal salts, Acid chlorides, Acid anhydrides
Conditions to avoid	Store away from oxidizing agents, strong acids or bases.
Incompatible material	Strong oxidizers, acids, gold, mercury, halogens, silv er, calcium hypochlorite bleaches.
Hazardous Decomposition Products	Ammonia and nitrogen oxides.
Hazardous Polymerization	Will not occur.

11. Toxicological information

Acute toxicity	LDLO human: 43 mg/kg (29% solution) (RTECS) Symptoms: gastric pain, Bloody vomiting, If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
Acute dermal toxicity	This information is not available.
Skin corrosion	Skin irritation Causes severe burns.
Toxic Effects on Humans	Very hazardous in case of skin contact (corrosive, irritant, permeator), of ingestion, . Hazardous in case of eye contact (corrosive), of inhalation (lung corrosive).

Special Remarks on Chronic Effects on Humans	May affect genetic material based on tests with microorganisms and animals. May cause cancer (tumorigenic) based on animal data. No human data found at this time.
Further information After absorption:	Systemic effects: Nausea, collapse, shock, Unconsciousness, Convulsions Lung oedema, Possible effects: death Other dangerous properties can not be excluded. Handle in accordance with good industrial hygiene and safety practice.

12. Ecological information

Toxicity	No information available.
COD and BOD 5	Not Available
Products of Biodegradation:	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Mobility in soil	Mobility in soil: Accidental spillage may lead to penetration in the soil and groundwater. However, there is no evidence that this would cause adverse ecological effects
Results of PBT and vPvB assessment	Substance(s) in the mixture do(es) not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII, or a PBT/vPvB assessment was not conducted.
Other adverse effects	Additional ecological information Biological effects: Harmful effect due to pH shift. Forms toxic and corrosive mixtures with water even if diluted. Discharge into the environment must be avoided.

13. Disposal considerations

Waste treatment Method	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself

14. Transport information

DOT

UN Number	UN 2672
Proper shipping name	AMMONIA SOLUTION.
Hazard Class	3
Subsidiary Hazard Class	8
Packing group	III

TDG

UN Number	**UN 2672**
Proper shipping name	**AMMONIA SOLUTION.**
Hazard Class	**3**
Subsidiary Hazard Class	**8**
Packing group	**III**

IATA

UN Number	UN 2672
Proper shipping name	AMMONIA SOLUTION.
Hazard Class	3
Subsidiary Hazard Class	8
Packing group	III

IMDG/IMO

UN Number	UN 2672
Proper shipping name	AMMONIA SOLUTION.
Hazard Class	3
Subsidiary Hazard Class	8
Packing group	III

15. Regulatory information

Fedral and State Regulation	Connecticut hazardous material U.S. TSCA, Canadian DSL, EU EINECS, Japanese ENCS, Australian AICS, Korean, Chinese, Philippine PICCS
Other Regulation	Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.
WHMIS (Canada)	CLASS D-1B: Material causing immediate and serious toxic effects (TOXIC). CLASS E: Corrosive liquid.

HMIS	
Health Hazard	: 3
Fire Hazard	: 0
Reactivity	: 0
Personal Protection	: H
Fire :	
Health Hazard	: 3
Fire Hazard	: 0
Reactivity	: 0
Specific Hazard	: ..

16. Other information

Other Information	The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if **RX Marine International** has been advised of the possibility of such damages.