

Camlab Limited – Material Safety Data Sheet

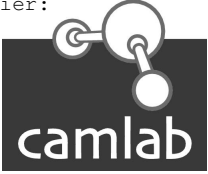
1. Identification

Product Code CC/0051-DA

Product Name **AMMONIA SOLUTION 35% w/w pure**

Molecular Formula **NH₃ =17.03**

CAS Number **1336-21-6**

Supplier: **CAMLAB LIMITED**
**Norman Way Industrial Estate
Over
Cambridge
England
CB4 5WE**

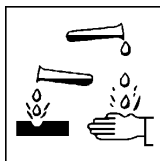
Phone **01954 233110**
Fax **01954 233101**

Emergency Telephone **08:00-17:00 01954 233110**
24hr 112
(Have this document to hand)

2. Composition

Component	CAS No	EEC No	Conc w/w	Classification & Risk Phrases	Exp (See 8.1)
Ammonia	1336-21-6	231-635-3	35.0%	C N : R34,R50	WEL

3. Hazards Identification



Causes burns. Very toxic to aquatic organisms.

4. First Aid Measures

Eyes Irrigate thoroughly with plenty of water for at least 10 minutes, holding the eye open. OBTAIN MEDICAL ATTENTION.

Skin Wash off skin thoroughly with water. Remove contaminated clothing immediately and wash before re-use. In severe cases or if exposure has been great, OBTAIN MEDICAL ATTENTION.

Inhalation Remove from exposure. Keep warm and at rest. If there is difficulty in breathing give oxygen if available. If breathing stops or shows signs of failing, apply artificial resuscitation. If conscious place in a sitting position. OBTAIN MEDICAL ATTENTION URGENTLY.

Ingestion If conscious give plenty of water to drink. Do not induce vomiting. If unconscious place in the recovery position. OBTAIN MEDICAL ATTENTION URGENTLY.

5. Fire Fighting Measures

Hazards Evacuate area immediately. Keep up wind. Avoid exposure to toxic vapours and fumes. Fire-fighters should wear protective clothing and breathing apparatus. May evolve toxic fumes if involved in a fire. Vapour-air mixtures are explosive.

Extinguishing Media Water spray, dry powder, carbon dioxide or vaporising liquids.

Unsuitable Media Nothing specified.

6. Accidental Release Measures

Personal Protection	Ensure no sources of ignition. Avoid breathing vapour. Use approved personal protective equipment. Evacuate area immediately. Do not allow general use of area until it is safe to do so.
Environmental	Keep material out of sewers, storm drains, surface waters and soil. Notify the Environmental Agency and local Environmental Health Officer if major spillage occurs.
Major Spillage	Contain and absorb on inert material. Transfer absorbent to salvage container for removal. Wash area down with copious amounts of water.
Minor Spillage	Contain and absorb on inert material. Neutralise with 5M hydrochloric acid. Transfer absorbent to container for removal. Wash area down with copious amounts of water.

7. Storage & Handling

Handling Precautions	Avoid contact with skin and eyes. Do not breath vapours. Do not allow to contaminate clothing. Ensure Local Exhaust Ventilation maintains vapour concentrations below the recommended limits.
Storage Conditions	Well ventilated, cool, dry storage . Protect from direct sun and store away from sources of ignition.

8.1 Workplace Exposure Limits

Workplace Exposure Limits	Long Term (8hr TWA):	25.00 ppm	17.00 mg m-3
	Short Term (15min Period):	35.00 ppm	24.00 mg m-3

8.2 Personal Protection

Respiratory	Use L.E.V. or natural ventilation to maintain vapour concentrations below exposure limits. If not, use a well maintained chemical cartridge respirator, or use self contained breathing apparatus.
Hands	Use nitrile gloves or PVC gauntlets.
Eyes	Use chemical splash proof glasses or goggles.
Skin	If skin contact or contamination of clothing is likely, protective clothing must be worn.

9. Physical & Chemical Properties

Appearance	Clear colourless liquid.
Odour	Pungent and intensely irritating.
pH	14 @ 20 °C
Boiling point	20.0 °C
Melting point	95.0- °C
Flash point	Not available
Upper Flammable Limit	25.0 %
Lower Flammable Limit	16.0 %
Auto Ignition	651.0 °C
Explosive properties	Moderate/severe in confined spaces.
Oxidising Properties	No.
Vapour Pressure	101 kPa @ 20 C
Relative Density	0.8900
Water Solubility	Completely soluble in water.

10. Stability & Reactivity

Chemical Stability	Stable under normal conditions
Conditions to Avoid	Hot surfaces, naked flames or other sources of ignition.
Materials to Avoid	Halogens and halogen compounds. Picric acid. Potassium chlorate. Mercury. Ethylene oxide. Dimethyl sulphate. Chromium trioxide and other chromium compounds.
Hazardous Decomposition Products	May produce hazardous fumes if involved in a fire.

11. Toxicological Information

Eyes	The vapour is be extremely irritating to eyes and can cause chemical eye burns. Damage can range from severe irritation and corneal scarring to permanent blindness.
Skin	The liquid may cause severe burns on prolonged contact.
LD50 Skin	Not available
Ingest	Ingestion will cause severe mouth burns, and if swallowed extensive damage to the oesophagus.
LD50 Ingest	Oral Rat 350mg/Kg
Inhalation	Exposure to vapour concentrations above the occupational exposure limits will produce irritation of the eyes, nose, throat and respiratory tract. High concentrations of vapour will effect the central nervous system causing spasms. In fatal cases severe damage to the lungs occurs along with secondary cardiovascular effects.
Carcinogenicity	Not considered to be a carcinogen.
Mutagenicity	May be a mutagen but only by excessively high, probably fatal, exposure.
Reproductive Effects	No information is available.
Other Information	The irritant effect provides warning that control of exposure is needed. 15ppm is the threshold for irritation with severe irritation occurring above 22ppm.

12. Ecological

Solutions or high vapour concentrations will cause damage to vegetation. If introduced into rivers lakes etc, pH of water is important. If >7.5-8 will form free ammonia which is toxic to aquatic life. Highly mobile and readily diluted in water courses. Low levels are readily bio-degraded in the environment. Higher levels are toxic to marine and plant life.

13. Disposal Considerations



Disposal Methods	Dispose of in a licensed incinerator. Never dispose of into water courses or sewerage systems.
Contaminated Packaging	Use a licensed waste disposer. Do not attempt to burn any residual liquids due to risk of explosion. Clean out with a weak hydrochloric acid solution then wash out thoroughly with water.

14. Transport Information

Proper Shipping Name	Ammonia Solution
UN Number	2672
UN Classification	8 Corrosive
Subsidiary Risk	None
Flash Point	Not available
Packing Group	III
Transport Category	3
Marine pollutant	No
ADR Hazard ID	80



15. Regulatory Information

Labelling	Corrosive, Dangerous for the Environment.
Classification	
Label Symbols	C  N 

15. Regulatory Information (continued)

Risk & safety Phrases	Causes burns. Very toxic to aquatic organisms. Keep locked up and out of reach of children. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label). Avoid release to the environment, refer to special instructions/safety data sheet.
EEC Number	231-635-3

16. Other Information

Document Information	<p>This document has been prepared in accordance with directive 88/379/EEC.</p> <p>The information contained in this document only covers the hazards presented by this material, it DOES NOT constitute a workplace risk assessment.</p> <p>Revision Date: 20/03/06. Data reviewed and PDF file generated: 19/07/07. Copyright 2007 Camlab Limited.</p>
----------------------	--