SAFETY DATA SHEET
Ammonia 24.5%

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name Ammonia 24.5%

Synonyms, Trade Names Ammonium hydroxide; ammonia solution.

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

Identified uses This product is used in the chemical industry.

1.3. Details of the supplier of the safety data sheet

Supplier:

THE CARBON GROUP
RINGASKIDDY
CORK
IRELAND
Tel: +353 21 4378988
Fax: +353 21 4378950
E-mail: info@carbon.ie

Contact Person SDS Contact: DCM Compliance, info@dcmcompliance.com

1.4. Emergency telephone number

+353 21 4378988

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical and Chemical Hazards	Not classified.
Human health	Skin Corr. 1B - H314;STOT Single 3 - H335
Environment	Not classified.

Classification (1999/45/EEC) C;R34. Xi;R37.

2.2. Label elements

Contains: AMMONIA 24.5%

Label In Accordance With (Ec) No. 1272/2008

Signal Word Danger

Hazard Statements

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

Precautionary Statements

P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338	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 or doctor/physician.

P501	Dispose of contents/container to …

Supplementary Precautionary Statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash … thoroughly after handling.
P301+330+331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+361+353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see … on this label).
P363	Wash contaminated clothing before reuse.
P403+233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

2.3. Other hazards

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

AMMONIA ...% **20-30%**

CAS-No.: 1336-21-6 **EC No.: 215-647-6**

Classification (EC 1272/2008)	Classification (67/548/EEC)
Skin Corr. 1B - H314	C;R34
STOT Single 3 - H335	N;R50
Aquatic Acute 1 - H400	

The Full Text for all R-Phrases is Hazard Statements are Displayed in Section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Inhalation.
Move the exposed person to fresh air at once. Perform artificial respiration if breathing has stopped. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.

Ingestion
DO NOT INDUCE VOMITING! NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! Remove victim immediately from source of exposure. Provide rest, warmth and fresh air. Rinse mouth thoroughly. Drink plenty of water. Get medical attention immediately!

Skin Contact
Remove affected person from source of contamination. Rinse the skin immediately with lots of water. Continue to rinse for at least 15 minutes and seek medical attention.

Eye Contact
Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

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

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

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Extinguishing Media
Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.

5.2. Special hazards arising from the substance or mixture

Unusual Fire & Explosion Hazards
Under specific conditions the substance can form combustible vapour/air mixtures, which are difficult to ignite.

Specific Hazards
Fire or high temperatures create: Corrosive gases/vapours/fumes of: Ammonia or amines. Nitrous gases (NOx).

5.3. Advice for firefighters

Special Fire Fighting Procedures
Use water spray to reduce vapours. In a fire or if heated, a pressure increase will occur and the container may burst. (tanks) Use water spray to keep fire-exposed containers cool.

Protective Measures In Fire
Self contained breathing apparatus and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

6.2. Environmental precautions

6.3. Methods and material for containment and cleaning up

DO NOT TOUCH SPILLED MATERIAL! Flush with plenty of water to clean spillage area. Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. Ventilate well. Small spill and leak
Take up with suitable material. Place in a suitable container. Clean up affected area with a large amount of water.

Large spill and leak
Prevent entry into sewers, basements or confined areas. Dyke if necessary. Absorb spill material with inert material (e.g., dry sand or earth), then place in a chemical waste container. Recycle, if possible. Neutralize the residue with a suitable diluted agent. Absorb with an inert material and place in an appropriate waste disposal container.

6.4. Reference to other sections

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Avoid spilling, skin and eye contact.

7.2. Conditions for safe storage, including any incompatibilities

Storage Class
Corrosive storage.

7.3. Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Ingredient Comments
OES = Occupational Exposure Standard.

8.2. Exposure controls

Protective Equipment


Respiratory Equipment
CE/ NIOSH/ NSHA APPROVED RESPIRATOR IS TO BE WORN.

Hand Protection
Wear suitable gloves.
4-8 hours (breakthrough time): Nitril rubber, butyl rubber, neoprene, Viton, PVC, Teflon.
<1 hour (breakthrough time): Polyethylene, polyvinyl alcohol (PVA) (these materials may degrade).
Replace damaged gloves

Eye Protection
Wear full-face visor or shield.

Other Protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene Measures

DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly if skin becomes wet or contaminated. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid
Colour	Colourless
Odour	Characteristic Pungent Ammonia Odour threshold 5-25 ppm.
Solubility	Soluble in cold water.
Initial Boiling Point and Boiling Range:	36 □C
Melting Point (°C)	-55 □C
Relative Density	0.9 g/cm3 20 □C
Vapour Density (Air=1)	0.8 (Air = 1)
pH-Value, Diluted Solution	14
Viscosity	1.2 mPas
Odour Threshold, Lower	5 ppm
Odour Threshold, Upper	25 ppm

Flash Point (°C)

Not applicable.

Auto Ignition Temperature (°C)	651□C

9.2. Other information

Vapours may form explosive mixtures with air.(in confined spaces)

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

10.2. Chemical stability

Stable under normal temperature conditions and recommended use.

10.3. Possibility of hazardous reactions

Reactive with metals and acids. Acids , oxidizing substances . Halogens , aluminium , zinc , copper , Gold compounds. Silver oxide and Mercury oxide : (→ compounds, sensitive to mechanical shocks) .

10.4. Conditions to avoid

Avoid excessive heat for prolonged periods of time. Avoid contact with acids.

10.5. Incompatible materials

Materials To Avoid

Reactive with metals and acids. Acids , oxidizing substances . Halogens , aluminium , zinc , copper , Gold compounds. Silver oxide and Mercury oxide : (→ compounds, sensitive to mechanical shocks) .

10.6. Hazardous decomposition products

In case of fire, toxic gases (CO, CO2, NOx) may be formed.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Toxicological Information

LD 50:	Rat	Oral	350 mg/kg
LD Lo:	Human	Oral	43 mg/kg
LD Lo:	Cat	Oral	750 mg/kg

Hazardous in case of skin contact (corrosive), of eye contact (corrosive), of inhalation (lung irritant, lung corrosive).

Respiratory Sensitisation

Not available.

Skin Sensitisation
Not available.
Germ Cell Mutagenicity (In Vivo)
Not available.
Carcinogenicity
Not available.
General Information
RTECS No. YE2111500
Eye Contact
No specific health warnings noted.
Health Warnings
Lacrymator. Inhalation of vapour/mist may result in lung oedema. Symptoms may occur after a latency period has elapsed.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:
There are no data on the ecotoxicity of this product.

12.1. Toxicity

Acute Fish Toxicity
N/A
Acute Toxicity - Fish
Not applicable.

EC 50, 48 Hrs, Daphnia, mg/l	N/A

12.2. Persistence and degradability

Degradability:
There are no data on the degradability of this product.

12.3. Bioaccumulative potential

Bioaccumulative Potential:
No data available on bioaccumulation.

12.4. Mobility in soil

Mobility:
The product is partly miscible with water and may spread in the aquatic environment. For data on physical state, solubility and vapour pressure see section 9.

12.5. Results of PBT and vPvB assessment

12.6. Other adverse effects

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Dispose of waste and residues in accordance with local authority requirements.
Waste Class
The classification of the product may meet the criteria for a hazardous waste

SECTION 14: TRANSPORT INFORMATION

14.1. UN number

UN No. (ADR/RID/ADN)	2672
UN No. (IMDG)	2672
UN No. (ICAO)	2672

14.2 UN Proper shipping name

Proper Shipping Name	AMMONIA SOLUTION

14.3 Transport hazard class(es)

ADR/RID/ADN Class	8
ADR/RID/ADN Class	Class 8: Corrosive substances.

ADR Label No.	8
IMDG Class	8
ICAO Class/Division	8

Transport Labels

14.4. Packing group

ADR/RID/ADN Packing group	III
IMDG Packing group	III
ICAO Packing group	III

14.5. Environmental hazards

Environmentally Hazardous Substance/Marine Pollutant
No.

14.6. Special precautions for user

EMS	F-A, S-B
Emergency Action Code	2R
Hazard No. (ADR)	80
Tunnel Restriction Code	(E)

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

SECTION 15: REGULATORY INFORMATION

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

EU Legislation
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments. Regulation EC 1272/2008 on the classification, labelling and packaging (CLP) of substances and mixtures which entered into force on 20 January 2009 and replaced both Dangerous Substance Directive 67/548/EC (DSD) and Dangerous Preparation Directive1999/45/EC. The UN Globally Harmonised System (GHS) Safety Data Sheet format (Annex IV) is implemented as Annex II of REACH EU No 453/2010 of 20th May 2010 amending regulation (EC) No 1907/2006

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Revision Comments
This revision was updated from previous Revision to incorporate requirements of REACH Regulation 1907/2006 , CLP Regulation 1272/2008 and Safety Data Sheet format changes as per Annex II of REACH EU No 453/2010.

Revision Date	24/03/2011
Revision	1

Risk Phrases In Full

R34	Causes burns.
R37	Irritating to respiratory system.
R50	Very toxic to aquatic organisms.

Hazard Statements In Full

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.