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

1.1 Product identifiers

Product Name	:	**5.2 M Ammonium hydroxide**
Product Number	:	HR2-855
REACH No.	:	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS Number	:	1336-21-6

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

Identified uses : Laboratory chemicals, Manufacture of substances.

1.3 Details of the supplier of the Safety Data Sheet

Company : Hampton Research
34 Journey
Aliso Viejo, CA 92656-3317
United States

Telephone : 949 425 1321
Telephone technical support is available 8:00 a.m. to 4:30 p.m. USA Pacific Standard Time.

Fax : 949 425 1611
Fax Technical Support is available 24 hours a day.

e-mail : tech@hrmail.com
e-mail Technical Support is available 24 hours a day.

1.4 Emergency telephone number

Emergency phone : 949 425 1321
For **CHEMTREC** Assistance : 800 424 9300
For **CHEMTREC** Assistance : 703 527 3887 (International)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302
Skin corrosion (Category 1A), H314
Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335
Acute aquatic toxicity (Category 1), H400

For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

C	Corrosive	R34
Xn	Harmful	R22
N	Dangerous for the environment	R50

For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008 [CLP]

Pictogram :

Signal word : Danger

Hazard statement(s)

H302 : Harmful if swallowed.

H314 : Causes severe skin burns and eye damage.

H335 : May cause respiratory irritation.

H400 : Very toxic to aquatic life.

Precautionary statement(s)

P261 : Avoid breathing vapours.

P273 : Avoid release to the environment.

P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.

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 or doctor/ physician.

Supplemental Hazard Statements : none

According to European Directive 67/548/EEC as amended.

Hazard symbol(s) : C Corrosive

: N Dangerous for the environment

R-phrase(s)

R22 : Harmful if swallowed.

R34 : Causes burns.

R50 : Very toxic to aquatic organisms.

2.3 Other hazards

SECTION 3: Composition/Information on Ingredients

3.1 Substances

Synonym	: Ammonia aqueous, Ammonia water
Formula	: NH_4OH
Molecular Weight	: 35.05
CAS Number	: 1336-21-6
EC Number	: 215-647-6

RTECS	Merck	Beilstein	SARA	MDL #	PubChem Substance ID
BQ9625000	N/A	3587154	No	MFCD00066650	N/A

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Ammonium hydroxide		
CAS-No. 1336-21-6 EC-No. 215-647-6 Index-No. 007-001-01-2	Acute Tox. 4; Skin Corr. 1B; Aquatic Acute 1; H302, H314, H400	50 - 100 %

Hazardous ingredients according to Directive 1999/45/EC

Component	Classification	Concentration
Ammonium hydroxide		
CAS-No. 1336-21-6 EC-No. 215-647-6 Index-No. 007-001-01-2	C, N, R22 - R34 - R50	50 - 100 %

SECTION 4: First Aid Measures

4.1 Description of first aid measures

General Advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes as a precaution and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. The most important known symptoms and effects are described in the labeling (see Section 2.2) and/or in Section 11.

SECTION 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NOx)

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further Information

no data available

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and Storage

7.1 Personal Precautions

Always open containers slowly to allow any excess pressure to vent.Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

The pressure in sealed containers can increase under the influence of heat.
Storage class (TRGS 510): Non-combustible, corrosive hazardous materials

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact
Material: butyl-rubber
Minimum layer thickness: 0,3 mm
Break through time: 480 min
Material tested:Butoject® (KCL 897 / Aldrich Z677647, Size M)

Splash contact
Material: Nature latex/chloroprene
Minimum layer thickness: 0,6 mm
Break through time: 30 min
Material tested:Lapren® (KCL 706 / Aldrich Z677558, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

SECTION 8: Exposure Controls/Personal Protection

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a)	Appearance	no data available
b)	Odor	no data available
c)	Odor Threshold	no data available
d)	pH	no data available
e)	Melting point/freezing point	no data available
f)	Initial boiling point and boiling range	no data available
g)	Flash point	no data available
i)	Flammability (solid, gas)	no data available
j)	Upper/lower flammability or explosive limits	no data available
k)	Vapor pressure	no data available
l)	Vapor density	no data available
m)	Relative density	no data available
n)	Water solubility	no data available
o)	Partition coefficient: noctanol/water	no data available
p)	Autoignition temperature	no data available
q)	Decomposition temperature	no data available
r)	Viscosity	no data available
s)	Explosive properties	no data available
t)	Oxidizing properties	no data available

9.2 Other safety information

Surface tension	no data available
Relative vapour density	no data available

SECTION 10: Stability and Reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Copper, Iron, Zinc

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 350 mg/kg (Ammonium hydroxide)
Remarks: Gastrointestinal:Other changes. Liver:Other changes. Kidney, Ureter, Bladder:Other changes.

Skin irritation / corrosion

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Chronic exposure

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

no data available

Specific target organ toxicity - single exposure

no data available

(CONTINUED) - SECTION 11: Toxicological Information

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional information

RTECS: no data available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

SECTION 12: Ecological Information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Very toxic to aquatic life.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

SECTION 14: Transportation Information

14.1 UN number

ADR/RID: 2672 IMDG: 2672 IATA: 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: 8 IMDG: 8 IATA: 8

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user

no data available

SECTION 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006.

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

no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out.

SECTION 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
Skin Corr.	Skin corrosion

Full text of R-phrases referred to under sections 2 and 3

C	Corrosive
N	Dangerous for the environment
R22	Harmful if swallowed.

(CONTINUED) - SECTION 16: Other Information

R34	Causes burns.
R50	Very toxic to aquatic organisms.

DISCLAIMER

For research use only. Not for drug, household, or other use.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of this product. Hampton Research Corp., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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