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

1.1 Product identifiers

Product name : AMMONIA SOLUTION SP.GR.0.890 (about 30% NH3) (Ammonium hydroxide)
Article No. : 9904
Brand : Thomas Baker
CAS Number : 1336-21-6

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

Identified uses: Chemical for synthesis

1.3 Details of the supplier of the safety data sheet

Company Name: Thomas Baker (Chemicals) Pvt. Ltd.
B3 & B4, MIDC, Chemical Zone, Ambernath 421501. Dist: Thane, India.

1.4 Emergency telephone

Emergency Phone # : +91 9307304329

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Skin corrosion/irritation	: Category 1
Serious eye damage/eye irritation	: Category 1
Specific target organ toxicity - single exposure	: Category 3 (Respiratory system)
Hazardous to the aquatic environment - acute hazard	: Category 1
Hazardous to the aquatic environment - chronic hazard	: Category 3

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Hazard pictograms

Signal word	Danger

Hazard statement(s)

H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

Prevention:

P261	Avoid breathing mist or vapours.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P330 + P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353	IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

CAS-No. : 1336-21-6

Components

Chemical name	CAS-No.	Concentration (% w/w)
ammonia solution	1336-21-6	>= 30 -< 60

SECTION 4: FIRST-AID MEASURES

4.1. Description of first aid measures

General advice : First aiders need to protect themselves.
Show this safety data sheet to the doctor in attendance.

If inhaled : After inhalation: fresh air. Call in physician.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.
Call a physician immediately.

In case of eye contact : After eye contact: rinse out with plenty of water.
Call in ophthalmologist.
Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation).
Call a physician immediately.
Do not attempt to neutralise.

Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media : For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting : Not combustible.

Ambient fire may liberate hazardous vapours.

Hazardous combustion Products : Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment and precautions for fire-fighters

Special protective equipment for fire-fighters : Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

Specific extinguishing methods : Suppress (knock down) gases/vapours/mists with a water spray jet.
Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions : 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.
Advice for emergency responders:
For personal protection see section 8.

6.2 Environmental precautions

Environmental precautions : Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Cover drains. Collect, bind, and pump off spills.
Observe possible material restrictions (see sections 7 and 10).
Take up with liquid-absorbent and neutralising material (e.g. Chemizorb® OH^-, Merck Art. No. 101596).
Dispose of properly. Clean up affected area.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handling

For precautions see section 2.2.

Precautions for safe handling

Advice on safe handling : Avoid contact with skin and eyes.
Always open containers slowly to allow any excess pressure to vent.

Storage

Conditions for safe storage, including any incompatibilities

Further information on storage conditions : Tightly closed.

Storage class : 8B, Non-combustible, corrosive hazardous materials

Recommended storage temperature : 2 - 8 °C

Further information on storage stability : May develop pressure.
Refrigerate before opening.
Handle and open container with care.

Packaging material : Suitable material: Poly Drum, LDPE Bottle/Jar, Clear Glass Bottle/Jar

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ammonia solution	1336-21-6	TWA	25 ppm (Ammonia)	ACGIH
		STEL	35 ppm (Ammonia)	ACGIH

8.2 Exposure controls

Appropriate engineering controls : No data available

Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Tightly fitting safety goggles

Skin protection : protective clothing

Hand protection

Material : butyl-rubber
Break through time : 480 min
Glove thickness : 0.7 mm
Protective index : Full contact
Manufacturer : Butoject® (KCL 898)

Material : Nitrile rubber
Break through time : 240 min
Glove thickness : 0.40 mm
Protective index : Splash contact
Manufacturer : Camatril® (KCL 730 / Aldrich Z677442, Size M)

Remarks : This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D 36124 Eichenzell, Internet: www.kcl.de).

Respiratory protection : required when vapours/aerosols are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter type: : Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance : liquid

Color : colourless

Odor : No data available

Odor Threshold : No data available

pH : 11.7 (20 °C)

Melting point/ range : -60 °C

Boiling point/boiling range: 38 - 100 °C (1.013 hPa)

Flash point : Not applicable

Evaporation rate	: No data available
Flammability (solid, gas)	: No data available
Flammability (liquids)	: The product is not flammable.
Burning rate	: No data available
Self-ignition	: Not applicable
Upper explosion limit / Upper flammability limit	: 27 %(V) Not applicable
Lower explosion limit / Lower flammability limit	: 16 %(V) Not applicable
Vapor pressure	: 153 hPa (20 °C)
Relative vapour density	: 1.21 (Air = 1.0)
Relative density	: No data available
Density	: 0.9 g/cm3 (25 °C) Method: lit.
Solubility(ies) Water solubility	: soluble (20 °C)
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: 651 °C Not applicable

Decomposition temperature	: No data available
Viscosity, dynamic	: No data available
Viscosity, kinematic	: No data available
Flow time	: No data available
Explosive properties	: Not classified as explosive.
Oxidizing properties	: none
Molecular weight	: 35.05 g/mol
Particle characteristics Particle size	: No data available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No data available

10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

10.3. Possibility of hazardous reactions

Violent reactions possible with:
The generally known reaction partners of water.

10.4. Conditions to avoid

no information available

10.5. Incompatible materials

Copper
Iron
Zinc

10.6. Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Mixture

Acute toxicity

Oral: No data available

Inhalation: No data available

Acute toxicity estimate Inhalation - 4 h - > 5 mg/l - dust/mist(Calculation method)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract
Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

Remarks: Mixture causes serious eye damage.
Risk of blindness!

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure
Mixture may cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Other dangerous properties can not be excluded.
Handle in accordance with good industrial hygiene and safety practice.

Components
ammonia solution
Acute toxicity
Oral: No data available
LC50 Inhalation - Rat - male - 4 h - 4.9 mg/l - dust/mist
Remarks: (ECHA)
Dermal: No data available

Skin corrosion/irritation
Remarks: Causes skin burns.
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Components:

ammonia solution:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.068 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Remarks: The value is given in analogy to the following substances: (ECHA) The value is given in analogy to the following substances: ammonium sulphate
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 101 mg/l End point: mortality Exposure time: 48 h Test Type: static test Analytical monitoring: yes

		Remarks: (ECHA) anhydrous
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Ictalurus punctatus): 0.048 mg/l Exposure time: 31 d Test Type: flow-through test Method: OECD Test Guideline 215 Remarks: anhydrous
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	LC50 (Daphnia magna (Water flea)): 4.07 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Method: US-EPA Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: ammonium chloride NOEC (Daphnia magna (Water flea)): 0.79 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Method: US-EPA Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: ammonium chloride
M-Factor (Chronic aquatic toxicity)	:	1

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

12.2 Persistence and degradability

Components:

ammonia solution:

Biodegradability : Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Components:

ammonia solution:

Partition coefficient: n-octanol/water : Remarks: Not applicable for inorganic substances

12.4 Mobility in soil

No data available

Other adverse effects

Components:

ammonia solution:

Results of PBT and vPvB assessment : Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal methods

Waste from residues : 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.
According to Quality Environment Regulation (Scheduled Waste) 2005, waste need to be sent to designated premise for recycle, treatment or disposal. Please contact Kualiti Alam for waste classification and correct disposal method.

SECTION 14: TRANSPORT INFORMATION

14.1 UN number

ADR/RID: UN 2672 IMDG: UN 2672 IATA: UN 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: no IMDG Marine pollutant: yes IATA: no

14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SECTION 15: REGULATORY INFORMATION

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

Safety, health, and environmental regulations specific for the hazardous chemical

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.
Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

SECTION 16: OTHER INFORMATION

NA

FOR THOMAS BAKER (CHEMICALS) PVT. LTD.

AUTHORISED SIGNATORY.

Information contained in this "Safety Data Sheet" is believed to be reliable but no representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. It is up to the manufacturer / seller/ user to ensure that the information contained in the safety data sheet is relevant to the product manufactured / handled or sold by him as the case may be. We make no warranties expressed or implied in respect of the adequacy of this document for any particular purpose.