

# Liquid Ammonia Test Solution #1

Chemwatch GHS Safety Data Sheet - (Conforms to Regulation (EC) No 1907/2006, Article 31.)  
Issue Date: 23-Dec-2009  
XC9481SC

Hazard Alert Code: MODERATE

CHEMWATCH 4650-12  
Version No:5  
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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Liquid Ammonia Test Solution #1

### OTHER NAMES

"Solution ID# 3335A"

### PRODUCT USE

Ammonia test solution for product LR8600, 34 and 401M.

### SUPPLIER

Company: Mars Fishcare Europe

Company: Mars Fishcare Inc

Address:

Address:

Parc d' activite la Ravoire

50 East Hamilton Street

Metz- Tessy

Chalfont

F74371 Pringy

PA, 18914

France

United States of America

Telephone: +33 450 57 20 50

Telephone: +1 215 822 8181

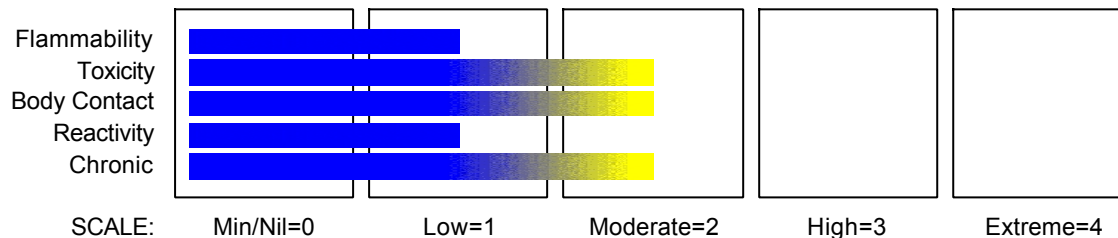
Telephone: Email: reach@rena.fr

Fax: +1 215 822 1906

Fax: +33 450 57 44 11

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS



### GHS Classification

Eye Irritation Category 2A

Reproductive Toxicity Category 1B



### EMERGENCY OVERVIEW

#### HAZARD

DANGER

Determined by Chemwatch using GHS criteria

H319

Causes serious eye irritation.

H360

May damage fertility or the unborn child <state specific effect if known >  
<state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

### PRECAUTIONARY STATEMENTS

#### Code

#### Phrase

#### Prevention

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P264

Wash thoroughly after handling.

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Section 2 - HAZARDS IDENTIFICATION

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
<b>Response</b>	
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
<b>Storage</b>	
P405	Store locked up.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
polyethylene glycol	25322-68-3	<90
sodium salicylate	54-21-7	<10

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

### EYE

- If this product comes in contact with the eyes:
- Wash out immediately with fresh running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Seek medical attention without delay; if pain persists or recurs seek medical attention.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### SKIN

- If skin contact occurs:
- Immediately remove all contaminated clothing, including footwear.
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

### NOTES TO PHYSICIAN

- Treat symptomatically.
- for salicylate intoxication:
- Pending gastric lavage, use emetics such as syrup of Ipecac or delay gastric emptying and absorption by swallowing a slurry of activated charcoal. Do not give ipecac after charcoal.
  - Gastric lavage with water or perhaps sodium bicarbonate solution (3%-5%). Mild alkali delays salicylate absorption from the stomach and perhaps slightly from the duodenum.
  - Saline catharsis with sodium or magnesium sulfate (15-30 gm in water).
  - Take an immediate blood sample for an appraisal of the patient's acid-base status. A pH determination on an anaerobic sample of arterial blood is best. An analysis of the plasma salicylate concentration should be made at the same time. Laboratory controls are almost essential for the proper management of severe salicylism.

## Section 5 - FIRE FIGHTING MEASURES

### EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.

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Section 5 - FIRE FIGHTING MEASURES

- BCF (where regulations permit).

## FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use water delivered as a fine spray to control fire and cool adjacent area.

## FIRE/EXPLOSION HAZARD

- Combustible.
  - Slight fire hazard when exposed to heat or flame.
  - Heating may cause expansion or decomposition leading to violent rupture of containers.
  - On combustion, may emit toxic fumes of carbon monoxide (CO).
- Combustion products include: carbon dioxide (CO<sub>2</sub>), other pyrolysis products typical of burning organic material.  
May emit poisonous fumes.  
May emit corrosive fumes.

## FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

## Personal Protective Equipment

Gas tight chemical resistant suit.  
Limit exposure duration to 1 BA set 30 mins.

## Section 6 - ACCIDENTAL RELEASE MEASURES

### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.

### MAJOR SPILLS

- Moderate hazard.
- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water course.

**Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

## Section 7 - HANDLING AND STORAGE

### PROCEDURE FOR HANDLING

- DO NOT allow clothing wet with material to stay in contact with skin.
- DO NOT USE brass or copper containers / stirrers.
- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.

### SUITABLE CONTAINER

- Metal can or drum
- Packaging as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

### STORAGE INCOMPATIBILITY

- Avoid reaction with oxidising agents.

### STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- No smoking, naked lights or ignition sources.
- Store in a cool, dry, well-ventilated area.

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- polyethylene glycol: CAS:25322- 68- 3 CAS:8038- 37- 7 CAS:9081- 95- 2 CAS:9085- 02- 3 CAS:9085- 03- 4 CAS:12676- 74- 3 CAS:12770- 93- 3 CAS:25104- 58- 9 CAS:25609- 81- 8 CAS:34802- 42- 1 CAS:37361- 15- 2 CAS:50809- 04- 6 CAS:50809- 59- 1 CAS:54510- 95- 1 CAS:54847- 64- 2 CAS:59763- 40- 5 CAS:60894- 12- 4 CAS:61840- 14- 0 CAS:64441- 68- 5 CAS:64640- 28- 4 CAS:67411- 64- 7 CAS:70926- 57- 7 CAS:75285- 02- 8 CAS:75285- 03- 9 CAS:77986- 38- 0 CAS:79964- 26- 4 CAS:80341- 53- 3 CAS:85399- 22- 0 CAS:85945- 29- 5 CAS:88077- 80- 9 CAS:88747- 22- 2 CAS:90597- 70- 9 CAS:99264- 61- 6 CAS:99333- 89- 8 CAS:101677- 86- 5 CAS:106186- 24- 7 CAS:107502- 63- 6 CAS:107529- 96- 4 CAS:109550- 27- 8 CAS: 112384- 37- 9 CAS:112895- 21- 3 CAS:114323- 93- 2 CAS:116549- 90- 7 CAS:119219- 06- 6 CAS:125223- 68- 9 CAS:133573- 31- 6 CAS:134919- 43- 0 CAS:150872- 82- 5 CAS: 154394- 38- 4 CAS:156948- 19- 5 CAS:169046- 53- 1 CAS:174460- 08- 3 CAS:174460- 09- 4 CAS:188364- 77- 4 CAS:188924- 03- 0 CAS:189154- 62- 9 CAS:191743- 71- 2 CAS:196696- 84- 1 CAS:201163- 43- 1 CAS:206357- 86- 0 CAS:54- 21- 7
- sodium salicylate:

### PERSONAL PROTECTION



### RESPIRATOR

Type A-P Filter of sufficient capacity

### EYE

- Safety glasses with side shields.
- Chemical goggles.
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

### HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear or safety gumboots, eg. Rubber.

### NOTE:

- The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.
- Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include: such as:
  - frequency and duration of contact,
  - chemical resistance of glove material,
  - glove thickness and
  - dexterity.

### OTHER

- Overalls.
- P.V.C. apron.
- Barrier cream.
- Skin cleansing cream.

### ENGINEERING CONTROLS

- General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator.

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## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Reddish-orange liquid with a mild odour; mixes with water.

### PHYSICAL PROPERTIES

Liquid.  
Mixes with water.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Applicable	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	8.3
Autoignition Temp (°C)	Not Applicable	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	1.152
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

## Section 10 - CHEMICAL STABILITY

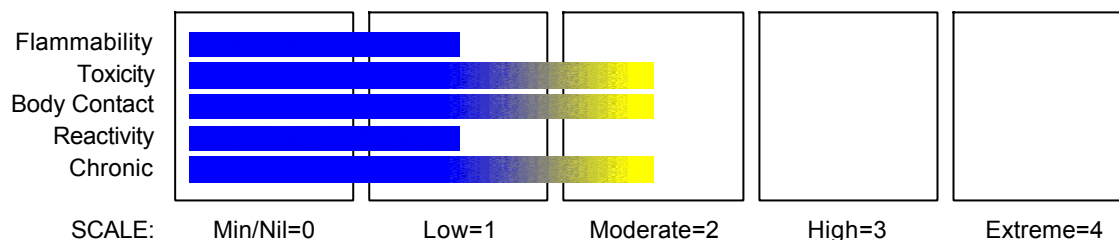
### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

### CHEMWATCH HAZARD RATINGS



### POTENTIAL HEALTH EFFECTS

#### GHS Hazard Phrases

Causes serious eye irritation.

May damage fertility or the unborn child <state specific effect if known > <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

#### TOXICITY AND IRRITATION

■ The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.

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## Section 12 - ECOLOGICAL INFORMATION

No data

### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
polyethylene glycol	HIGH		LOW	HIGH
sodium salicylate	LOW		LOW	HIGH

## Section 13 - DISPOSAL CONSIDERATIONS

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- Where in doubt contact the responsible authority.
- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction.

■ According to the European Waste Catalogue, Waste Codes are not product specific but application specific. Waste Codes should be assigned by the User based on the application in which the product is used.

## Section 14 - TRANSPORTATION INFORMATION

### HAZCHEM:

None

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADR, IATA, IMDG

## Section 15 - REGULATORY INFORMATION



### RISK

Risk Codes  
R36

### Risk Phrases

- Irritating to eyes.

### SAFETY

Safety Codes

S23

S53

S40

S26

S46

### Safety Phrases

- Do not breathe gas/fumes/vapour/spray.
- Avoid exposure - obtain special instructions before use.
- To clean the floor and all objects contaminated by this material, use water.
- In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
- If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre. (show this container or label).

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Section 15 - REGULATORY INFORMATION

## Annex II of Directive 67/548/EEC: Indications of Danger

Xi Irritant

## REGULATIONS

### Regulations for ingredients

polyethylene glycol (CAS: 25322-68-3,8038-37-7,9081-95-2,9085-02-3,9085-03-4,12676-74-3,12770-93-3,25104-58-9,25609-81-8,34802-42-1,37361-15-2,50809-04-6,50809-59-1,54510-95-1,54847-64-2,59763-40-5,60894-12-4,61840-14-0,64441-68-5,64640-28-4,67411-64-7,70926-57-7,75285-02-8,75285-03-9,77986-38-0,79964-26-4,80341-53-3,85399-22-0,85945-29-5,88077-80-9,88747-22-2,90597-70-9,99264-61-6,99333-89-8,101677-86-5,106186-24-7,107502-63-6,107529-96-4,109550-27-8,112384-37-9,112895-21-3,114323-93-2,116549-90-7,119219-06-6,125223-68-9,133573-31-6,134919-43-0,150872-82-5,154394-38-4,156948-19-5,169046-53-1,174460-08-3,174460-09-4,188364-77-4,188924-03-0,189154-62-9,191743-71-2,196696-84-1,201163-43-1,206357-86-0) is found on the following regulatory lists;

"EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex II Section A: List of authorised monomers and other starting substances", "EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex III Section A Incomplete list of additives fully harmonised at Community level", "European Chemicals Agency (ECHA) List of substances identified for registration in 2010", "European Customs Inventory of Chemical Substances (English)", "European Union (EU) Inventory of Ingredients used in Cosmetic Products", "European Union (EU) No-Longer Polymers List (NLP) (67/548/EEC)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Cod 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "International Fragrance Association (IFRA) Survey: Transparency List"

sodium salicylate (CAS: 54-21-7) is found on the following regulatory lists;

"Chemwatch Candidate List of Very High Concern - List of Substance Subject to Authorization", "European Customs Inventory of Chemical Substances (English)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "European Union (EU) Inventory of Ingredients used in Cosmetic Products", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances"

No data for Liquid Ammonia Test Solution #1 (CW: 4650-12)

This safety data sheet is in compliance with the following EU legislation and its adaptations – as far as applicable - : 67/548/EEC, 1999/45/EC, 76/769/EEC, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC, 1999/13/EC, as well as the following British legislation:

- The Control of Substances Hazardous to Health Regulations (COSHH) 2002
- COSHH Essentials
- The Management of Health and Safety at Work Regulations 1999

## Section 16 - OTHER INFORMATION

### ND

Substance	CAS	Suggested codes
sodium salicylate	54- 21- 7	AUTOID~

### INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
polyethylene glycol	25322-68-3, 8038-37-7, 9081-95-2, 9085-02-3, 9085-03-4, 12676-74-3, 12770-93-3, 25104-58-9, 37361-15-2, 50809-04-6, 50809-59-1, 54510-95-1, 54847-64-2, 59763-40-5, 60894-12-4, 61840-14-0, 64441-68-5, 64640-28-4, 67411-64-7, 70926-57-7, 75285-02-8, 75285-03-9, 77986-38-0, 79964-26-4, 80341-53-3, 85399-22-0, 85945-29-5, 88077-80-9, 88747-22-2, 90597-70-9, 99264-61-6, 99333-89-8, 101677-86-5, 106186-24-7, 107502-63-6, 107529-96-4, 109550-27-8, 112384-37-9, 112895-21-3, 114323-93-2, 116549-90-7, 119219-06-6, 125223-68-9, 133573-31-6, 134919-43-0, 150872-82-5, 154394-38-4, 156948-19-5, 169046-53-1, 174460-08-3, 174460-09-4, 188364-77-4, 188924-03-0, 189154-62-9, 191743-71-2, 196696-84-1, 201163-43-1, 206357-86-0

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

■ For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

EN 16 Personal eye-protection  
EN 340 Protective clothing

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Section 16 - OTHER INFORMATION

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EN 374 Protective gloves against chemicals and micro-organisms  
EN 13832 Footwear protecting against chemicals  
EN 133 Respiratory protective devices.

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Issue Date: 23-Dec-2009  
Print Date: 2-Mar-2011

# Liquid Ammonia Test Solution #2

Chemwatch GHS Safety Data Sheet - (Conforms to Regulation (EC) No 1907/2006, Article 31.)  
Issue Date: 23-Dec-2009  
XC9481SC

Hazard Alert Code: **EXTREME**

CHEMWATCH 4650-9  
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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

Liquid Ammonia Test Solution #2

### OTHER NAMES

"Solution ID# 3335B"

### PROPER SHIPPING NAME

CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.(Contains sodium hydroxide, sodium hypochlorite)

### PRODUCT USE

Ammonia test solution for product LR8600, 34 and 401M.

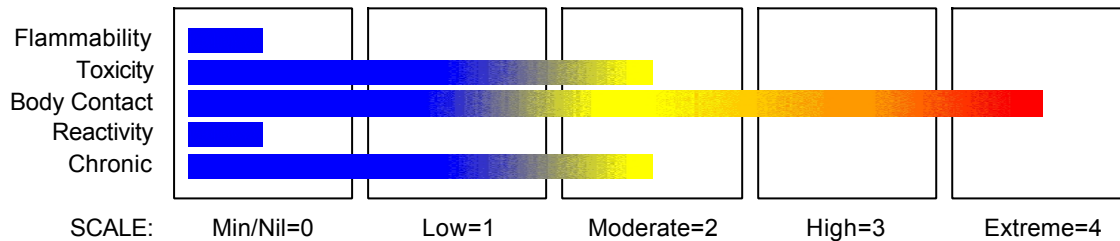
### SUPPLIER

Company: Mars Fishcare Europe  
Address:  
Parc d' activite la Ravoire  
Metz- Tessy  
F74371 Pringy  
France  
Telephone: +33 450 57 20 50  
Telephone: Email: reach@rena.fr  
Fax: +33 450 57 44 11

Company: Mars Fishcare Inc  
Address:  
50 East Hamilton Street  
Chalfont  
PA, 18914  
United States of America  
Telephone: +1 215 822 8181  
Fax: +1 215 822 1906

## Section 2 - HAZARDS IDENTIFICATION

### CHEMWATCH HAZARD RATINGS



### GHS Classification

Metal Corrosion Category 1  
Serious Eye Damage Category 1  
Skin Corrosion/Irritation Category 1B



### EMERGENCY OVERVIEW

HAZARD  
DANGER

Determined by Chemwatch using GHS criteria

H290  
H314  
H318

May be corrosive to metals.  
Causes severe skin burns and eye damage.  
Causes serious eye damage.

### PRECAUTIONARY STATEMENTS

Code  
Prevention  
P234

Phrase

Keep only in original container.

continued...

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Section 2 - HAZARDS IDENTIFICATION

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
<b>Response</b>	
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	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305+P351+P338	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.
P310	Immediately call a POISON CENTER or doctor/physician.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
<b>Storage</b>	
P405	Store locked up.
P406	Store in corrosive resistant container or with a resistant inner liner.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
sodium hydroxide	1310-73-2	<10
sodium hypochlorite	7681-52-9	<1

## Section 4 - FIRST AID MEASURES

### SWALLOWED

- For advice, contact a Poisons Information Centre or a doctor at once.
- Urgent hospital treatment is likely to be needed.
- If swallowed do NOT induce vomiting.
- If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.

### EYE

- If this product comes in contact with the eyes:
- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.
- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

### SKIN

- If skin or hair contact occurs:
- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.

### INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

### NOTES TO PHYSICIAN

- For acute or short-term repeated exposures to highly alkaline materials:
- Respiratory stress is uncommon but present occasionally because of soft tissue edema.
- Unless endotracheal intubation can be accomplished under direct vision, cricothyroidotomy or tracheotomy may be necessary.
- Oxygen is given as indicated.
- The presence of shock suggests perforation and mandates an intravenous line and fluid administration.

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## Liquid Ammonia Test Solution #2

Chemwatch GHS Safety Data Sheet - (Conforms to Regulation (EC) No 1907/2006, Article 31.)  
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### Section 5 - FIRE FIGHTING MEASURES

#### EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).

#### FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 800 metres in all directions.

#### FIRE/EXPLOSION HAZARD

- Non combustible.
  - Not considered a significant fire risk, however containers may burn.
- May emit corrosive fumes.

#### FIRE INCOMPATIBILITY

- None known.

#### Personal Protective Equipment

Breathing apparatus.

Gas tight chemical resistant suit.

Limit exposure duration to 1 BA set 30 mins.

### Section 6 - ACCIDENTAL RELEASE MEASURES

#### MINOR SPILLS

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.

#### MAJOR SPILLS

- Clear area of personnel and move upwind.
- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.

**Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

### Section 7 - HANDLING AND STORAGE

#### PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- WARNING: To avoid violent reaction, ALWAYS add material to water and NEVER water to material.
- DO NOT allow clothing wet with material to stay in contact with skin.

#### SUITABLE CONTAINER

- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure. <</>.

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 Section 7 - HANDLING AND STORAGE

### STORAGE INCOMPATIBILITY

- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

### STORAGE REQUIREMENTS

- Store in original containers.
  - Keep containers securely sealed.
  - Store in a cool, dry, well-ventilated area.
  - Store away from incompatible materials and foodstuff containers.
  - DO NOT store near acids, or oxidising agents.
- Protect containers against physical damage.
- Check regularly for spills and leaks.
  - No smoking, naked lights, heat or ignition sources.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m <sup>3</sup>	STEL ppm	STEL mg/m <sup>3</sup>	Peak ppm	Peak mg/m <sup>3</sup>	TWA F/CC	Notes
UK Workplace Exposure Limits (WELs)	sodium hydroxide (Sodium hydroxide)				2				R35
EU Consolidated List of Indicative Occupational Exposure Limit Values (IOELVs)	sodium hypochlorite (Chlorine)			0.5	1.5				
European Union (EU) Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values (IOELVs)	sodium hypochlorite (Chlorine)			0, 5	1, 5				
UK Workplace Exposure Limits (WELs)	sodium hypochlorite (Chlorine)			0.5	1.5				R23, 36/37/38, 50

### PERSONAL PROTECTION



### RESPIRATOR

Type B-P Filter of sufficient capacity

### EYE

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure
- Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.

### HANDS/FEET

- Elbow length PVC gloves.
- When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

## OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

## ENGINEERING CONTROLS

- Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Clear alkaline liquid with a chlorine odour; mixes with water.

### PHYSICAL PROPERTIES

Liquid.  
Mixes with water.  
Corrosive.  
Alkaline.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Applicable	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	13.3- 13.9
Autoignition Temp (°C)	Not Applicable	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Applicable	Specific Gravity (water=1)	1.099
Lower Explosive Limit (%)	Not Applicable	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

## Section 10 - CHEMICAL STABILITY

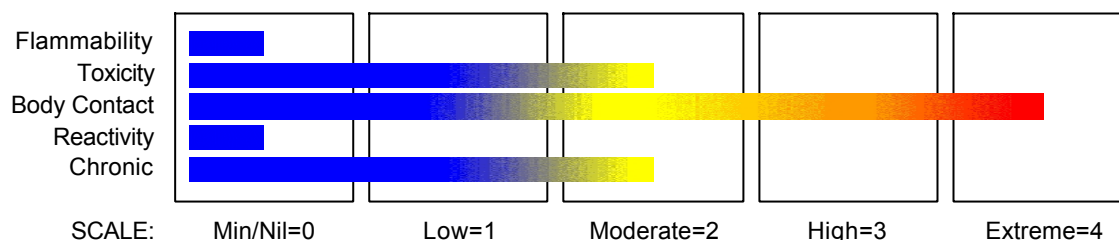
### CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

## Section 11 - TOXICOLOGICAL INFORMATION

### CHEMWATCH HAZARD RATINGS



### POTENTIAL HEALTH EFFECTS

#### GHS Hazard Phrases

- May be corrosive to metals.
- Causes severe skin burns and eye damage.
- Causes serious eye damage.

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Section 11 - TOXICOLOGICAL INFORMATION

## TOXICITY AND IRRITATION

■ Not available. Refer to individual constituents.

## Section 12 - ECOLOGICAL INFORMATION

Harmful to aquatic organisms.

This material and its container must be disposed of as hazardous waste.

### Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
sodium hydroxide	LOW		LOW	HIGH

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Treat and neutralise at an approved treatment plant.
- Treatment should involve: Neutralisation with suitable dilute acid followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material).
- Containers may still present a chemical hazard/ danger when empty.
- Return to supplier for reuse/ recycling if possible.

Otherwise:

- If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.
- Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

■ According to the European Waste Catalogue, Waste Codes are not product specific but application specific. Waste Codes should be assigned by the User based on the application in which the product is used.

## Section 14 - TRANSPORTATION INFORMATION



Labels Required: CORROSIVE

### HAZCHEM:

2X

### Land transport ADR/RID (cross-border):

ADR/RID Class:	8	Hazard identification (Kemler):	80
UN Number:	3266	Packing Group:	II
Classification Code:	C5	Hazard Label:	8
Special provisions:	274		
Shipping Name:	CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.		

### Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	3266	Packing Group:	II
Special provisions:	A3		
Cargo Only			
Packing Instructions:	30 L	Maximum Qty/Pack:	1 L
Passenger and Cargo		Passenger and Cargo	
Packing Instructions:	812	Maximum Qty/Pack:	808
Passenger and Cargo Limited Quantity		Passenger and Cargo Limited Quantity	

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## Section 14 - TRANSPORTATION INFORMATION

Packing Instructions: 0.5 L Maximum Qty/Pack: Y808

Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.  
\*(CONTAINS SODIUM HYDROXIDE, SODIUM HYPOCHLORITE)

### Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	3266	Packing Group:	II
EMS Number:	F-A , S-B	Special provisions:	274
Limited Quantities:	1 L		

Shipping Name: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.

## Section 15 - REGULATORY INFORMATION



### Annex I of Directive 67/548/EEC

sodium hydroxide	011- 002- 00- 6
sodium hypochlorite	017- 011- 00- 1

### RISK

Risk Codes  
R35  
R41  
R52

### Risk Phrases

- Causes severe burns.
- Risk of serious damage to eyes.
- Harmful to aquatic organisms.

### SAFETY

#### Safety Codes

S01	■ Keep locked up.
S23	■ Do not breathe gas/fumes/vapour/spray.
S25	■ Avoid contact with eyes.
S36	■ Wear suitable protective clothing.
S40	■ To clean the floor and all objects contaminated by this material, use water.
S27	■ Take off immediately all contaminated clothing.
S45	■ In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
S60	■ This material and its container must be disposed of as hazardous waste.

### Annex II of Directive 67/548/EEC: Indications of Danger

C Corrosive

### REGULATIONS

#### Regulations for ingredients

#### sodium hydroxide (CAS: 1310-73-2,12200-64-5) is found on the following regulatory lists;

"CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "EU Directive 2002/72/EC Plastic materials and articles intended to come into contact with foodstuffs - Annex III Section A Incomplete list of additives fully harmonised at Community level", "European Chemicals Agency (ECHA) List of substances identified for registration in 2010", "European Customs Inventory of Chemical Substances (English)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "European Union (EU) Control of Major Accident Hazards Involving Dangerous Substances - Seveso Category", "European Union (EU) Inventory of Ingredients used in Cosmetic Products", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD Representative List of High Production Volume (HPV) Chemicals", "UK Workplace Exposure Limits (WELs)"

#### sodium hypochlorite (CAS: 7681-52-9,10022-70-5) is found on the following regulatory lists;

"European Chemicals Agency (ECHA) List of substances identified for registration in 2010", "European Customs Inventory of Chemical Substances (English)", "European Union - European Inventory of Existing Commercial Chemical Substances (EINECS) (English)", "European Union (EU) Annex I to Directive 67/548/EEC on Classification and Labelling of Dangerous Substances - updated by ATP: 31", "European Union (EU) Control of Major Accident

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Section 15 - REGULATORY INFORMATION

Hazards Involving Dangerous Substances - Seveso Category", "European Union (EU) Regulation (EC) No 1272/2008 on Classification, Labelling and Packaging of Substances and Mixtures - Annex VI", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Liquid Ammonia Test Solution #2 (CW: 4650-9)

This safety data sheet is in compliance with the following EU legislation and its adaptations – as far as applicable - : 67/548/EEC, 1999/45/EC, 76/769/EEC, 98/24/EC, 92/85/EEC, 94/33/EC, 91/689/EEC, 1999/13/EC, as well as the following British legislation:

- The Control of Substances Hazardous to Health Regulations (COSHH) 2002
- COSHH Essentials
- The Management of Health and Safety at Work Regulations 1999

### Section 16 - OTHER INFORMATION

#### INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS	
sodium hydroxide	1310-73-2,	12200-64-5
sodium hypochlorite	7681-52-9,	10022-70-5

■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:  
[www.chemwatch.net/references](http://www.chemwatch.net/references).

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

■ For detailed advice on Personal Protective Equipment, refer to the following EU CEN Standards:

- EN 16 Personal eye-protection
- EN 340 Protective clothing
- EN 374 Protective gloves against chemicals and micro-organisms
- EN 13832 Footwear protecting against chemicals
- EN 133 Respiratory protective devices.

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