

ASTAPHEN HL-815

Chemwatch Independent Material Safety Data Sheet (REVIEW)

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CHEMWATCH 33-7246

Version No:2.1.1.1

A317LP

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

ASTAPHEN HL-815

PROPER SHIPPING NAME

CORROSIVE LIQUID, N.O.S.(contains sodium hydroxide)

PRODUCT USE

Adhesive.

SUPPLIER

Company: Asta Chemicals Sdn Bhd Company: Asta Chemicals Sdn Bhd

Address: Address:

Lot 1863 Mukim Sungai Karang Kawasan Perindustrian Lot 2823 (101) Mukim 1, Lorong Perusahaan 2,

Lembaga Pelabuhan Kuantan Kawasan Perindustrian Perai

Tanjung Gelang, Kuantan Pulau Pinang

Kuantan Pahang, 25720 Perai, 13600

Malaysia Malaysia

Telephone: +60 9 583 3936 Telephone: +60 4 390 8110

Fax: +60 9 583 3980 Fax: +60 4 399 8087

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

CHEMWATCH HAZARD RATINGS

Flammability	0	█
Toxicity	2	███
Body Contact	4	█████
Reactivity	0	█
Chronic	2	███

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4



RISK	SAFETY
■ Causes severe burns.	• Keep locked up.
■ Risk of serious damage to eyes.	• Do not breathe gas/fumes/vapour/spray.
■ May cause SENSITISATION by skin contact.	• Avoid contact with skin.
	• Avoid contact with eyes.
	• Wear suitable protective clothing.
	• Wear suitable gloves.
	• Wear eye/face protection.
	• To clean the floor and all objects contaminated by this material, use water.
	• Take off immediately all contaminated clothing.
	• In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
	• In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
	• This material and its container must be disposed of as hazardous waste.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
phenol/ formaldehyde resin	9003-35-4	30-60
sodium hydroxide	1310-73-2	1-10
residual reactants as		
formaldehyde.	50-00-0	0.5 max
phenol	108-95-2	0.1 max
water	7732-18-5	30-60

NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

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.
- Observe the patient carefully.
- Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.
- Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Transport to hospital or doctor without delay.

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.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

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.

In case of burns:

- Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth.
- DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury.
- DO NOT break blister or remove solidified material.
- Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain.
- For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth.
- DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances.
- Water may be given in small quantities if the person is conscious.
- Alcohol is not to be given under any circumstances.
- Reassure.
- Treat for shock by keeping the person warm and in a lying position.
- Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient.

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.
- Transport to hospital, or doctor.

NOTES TO PHYSICIAN

- Treat symptomatically.

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.
- Damage due to alkaline corrosives occurs by liquefaction necrosis whereby the saponification of fats and solubilisation of proteins allow deep penetration into the tissue.

Alkalis continue to cause damage after exposure.

INGESTION:

- Milk and water are the preferred diluents

No more than 2 glasses of water should be given to an adult.

- Neutralising agents should never be given since exothermic heat reaction may compound injury.

* Catharsis and emesis are absolutely contra- indicated.

* Activated charcoal does not absorb alkali.

* Gastric lavage should not be used.

Supportive care involves the following:

- Withhold oral feedings initially.
- If endoscopy confirms transmucosal injury start steroids only within the first 48 hours.
- Carefully evaluate the amount of tissue necrosis before assessing the need for surgical intervention.
- Patients should be instructed to seek medical attention whenever they develop difficulty in swallowing (dysphagia).

SKIN AND EYE:

- Injury should be irrigated for 20- 30 minutes.

Eye injuries require saline. [Ellenhorn & Barceloux: Medical Toxicology].

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

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

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.
- Do not approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- If safe to do so, remove containers from path of fire.
- Equipment should be thoroughly decontaminated after use.

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

- The material is not readily combustible under normal conditions.
 - However, it will break down under fire conditions and the organic component may burn.
 - Not considered to be a significant fire risk.
 - Heat may cause expansion or decomposition with violent rupture of containers.
 - Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
 - May emit acrid smoke.
- Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂), aldehydes, other pyrolysis products typical of burning organic material.
May emit corrosive fumes.

FIRE INCOMPATIBILITY

- None known.

HAZCHEM

2X

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.
- Check regularly for spills and leaks.

- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact with the substance, by using protective equipment.
- Contain and absorb spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

■ Chemical Class: phenols and cresols

For release onto land: recommended sorbents listed in order of priority.

SORBENT TYPE	RANK	APPLICATION	COLLECTION	LIMITATIONS
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LAND SPILL - SMALL

cross-linked polymer - particulate	1	shovel	shovel	R, W, SS
cross-linked polymer - pillow	1	throw	pitchfork	R, DGC, RT
wood fiber - pillow	1	throw	pitchfork	R, P, DGC, RT
foamed glass - pillow	2	shovel	shovel	R, W, P, DGC
sorbent clay - particulate	2	shovel	shovel	R, I, P
wood fibre - particulate	3	shovel	shovel	R, W, P, DGC

LAND SPILL - MEDIUM

cross-linked polymer - particulate	1	blower	skid loader	R,W, SS
cross-linked polymer - pillow	2	throw	skid loader	R, DGC, RT
sorbent clay - particulate	3	blower	skid loader	R, I, P
polypropylene - particulate	3	blower	skid loader	R, SS, DGC
wood fiber - particulate	4	blower	skid loader	R, W, P, DGC
expanded moneral - particulate	4	blower	skid loader	R, I, W, P, DGC

Legend

DGC: Not effective where ground cover is dense

R; Not reusable

I; Not incinerable

P: Effectiveness reduced when rainy

RT: Not effective where terrain is rugged

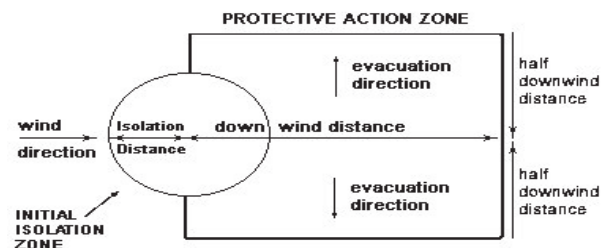
SS: Not for use within environmentally sensitive sites

W: Effectiveness reduced when windy

Reference: Sorbents for Liquid Hazardous Substance Cleanup and Control;

R.W Melvold et al: Pollution Technology Review No. 150: Noyes Data Corporation 1988.

- 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.
- Consider evacuation (or protect in place).
- Stop leak if safe to do so.
- Contain spill with sand, earth or vermiculite.
- Collect recoverable product into labelled containers for recycling.
- Neutralise/decontaminate residue (see Section 13 for specific agent).
- Collect solid residues and seal in labelled drums for disposal.
- Wash area and prevent runoff into drains.
- After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re- using.
- If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL

From IERG (Canada/Australia)

Isolation Distance 25 metres

Downwind Protection Distance 250 metres

IERG Number 37

FOOTNOTES

1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.

2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.

3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life- threatening concentrations of the material.

4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered " small spills" .

LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a " one- tonne" compressed gas cylinder.

5 Guide 154 is taken from the US DOT emergency response guide book.

6 IERG information is derived from CANUTEC - Transport Canada.

EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

sodium hydroxide 50 mg/m³

formaldehyde. 40 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

sodium hydroxide 5 mg/m³

formaldehyde. 10 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

sodium hydroxide 0.5 mg/m³

formaldehyde. 1 ppm*

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

Very Toxic (T+) >= 0.1% Toxic (T) >= 3.0%

R50 >= 0.25% Corrosive (C) >= 5.0%

R51 >= 2.5%

else >= 10%

where percentage is percentage of ingredient found in the mixture

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.
- 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.
- Avoid smoking, naked lights or ignition sources.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately. Launder contaminated clothing before re-use.
- Use good occupational work practice.
- Observe manufacturer's storage and handling recommendations contained within this MSDS.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

SUITABLE CONTAINER

- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.
- Check all containers are clearly labelled and free from leaks.

For low viscosity materials

- Drums and jericans 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.

For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):

- Removable head packaging;
 - Cans with friction closures and
 - low pressure tubes and cartridges
- may be used.

Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

STORAGE INCOMPATIBILITY

- Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
- Avoid contact with copper, aluminium and their alloys.

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.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storage and handling recommendations contained within this MSDS.
- DO NOT store near acids, or oxidising agents.
- No smoking, naked lights, heat or ignition sources.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific preventions

X: Must not be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	STEL ppm
Australia Exposure Standards	formaldehyde. (Formaldehyde (h))	1	2
Australia Exposure Standards	phenol (Phenol)	1	

The following materials had no OELs on our records

- phenol/ formaldehyde resin: CAS:9003-35-4
- water: CAS:7732-18-5

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
sodium hydroxide 1823	10	
formaldehyde.	0	20
phenol	962	250 [Unch]

Material	Revised IDLH Value (mg/m3)	Revised IDLH Value (ppm)
sodium hydroxide 1823	10	
formaldehyde.	0	20
phenol	962	250 [Unch]

MATERIAL DATA

FORMALDEHYDE.:

PHENOL/ FORMALDEHYDE RESIN:

■ for formaldehyde:

Odour Threshold Value for formaldehyde: 0.98 ppm (recognition)

NOTE: Detector tubes for formaldehyde, measuring in excess of 0.2 ppm are available commercially.

Formaldehyde vapour exposure:

Primary irritation is dependent on duration of exposure and individual susceptibility.

The following are typical symptoms encountered at various exposure levels.

0.1 ppm - Lower level of mucous eye, nose and throat irritation

0.8 ppm - Typical threshold of perception

1- 2 ppm - Typical threshold of irritation

2- 3 ppm - Irritation of eyes, nose and throat

4- 5 ppm - Increased irritation, tearing, headache, pungent odour

10- 20 ppm - Profuse tearing, severe burning, coughing

50 ppm - Serious bronchial and alveolar damage

100 ppm - Formaldehyde induced chemical pneumonia and death

Despite the intent of the TLV Ceiling recommendation it is believed that 0.3 ppm will not protect that portion of the workforce (up to 20%) reported to be responsive to low ambient concentrations. Because of the dose- related carcinogenic activity for rat and mouse inhalation of formaldehyde, the report of macromolecular adducts in the upper and lower respiratory tracts of nonhuman primates following inhalation of formaldehyde, the human case reports of upper respiratory tract malignant melanoma associated with

formaldehyde inhalation and the suggestive epidemiologic data on human cancer risk, the TLV Committee recommends that workplace formaldehyde air concentrations be reduced to the lowest possible levels that can be achieved using engineering controls.

Odour Safety Factor(OSF)

OSF=0.36 (FORMALDEHYDE).

PHENOL/ FORMALDEHYDE RESIN:

PHENOL:

■ Odour Threshold Value for phenol: 0.060 ppm (detection)

NOTE: Detector tubes for phenol, measuring in excess of 1 ppm, are commercially available.

Systemic absorption by all routes may induce convulsions with damage to the lungs and central nervous system.

Exposure at or below the recommended TLV- TWA is thought to protect the worker from respiratory, cardiovascular, hepatic, renal and neurological toxicity. Workers or volunteers exposed at or below 5.2 ppm phenol have experienced no ill- effects. Because phenol as a vapour, liquid or solid can penetrate the skin causing systemic effects, a skin notation is considered necessary. Although ACGIH has not recommended a STEL it is felt that ACGIH excursion limits (15 ppm limited to a total duration of 30

minutes with brief excursions limited to no more than 25 ppm) and NIOSH Ceiling values are sufficiently similar so as to provide the same margin of safety.

Odour Safety Factor(OSF)

OSF=25 (PHENOL).

ASTAPHEN HL- 815:

Not available

SODIUM HYDROXIDE:

■ for sodium hydroxide:

The TLV- C is recommended based on concentrations that produce noticeable but not excessive, ocular and upper respiratory tract irritation.

WATER:

■ No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION**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.

· 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], [AS/NZS 1336 or national equivalent].

HANDS/FEET

· Elbow length PVC gloves.

· When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

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.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

· Contaminated gloves should be replaced.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non- perfumed moisturiser is recommended.

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.
- Ensure there is ready access to a safety shower.

GLOVE SELECTION INDEX

■ Glove selection is based on a modified presentation of the: " Forsberg Clothing Performance Index" .

The effect(s) of the following substance(s) are taken into account in the computer- generated selection: water, sodium hydroxide

■ Protective Material CPI *

BUTYL	A
NEOPRENE	A
VITON	B
NATURAL RUBBER	C

■ * CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

* Where the glove is to be used on a short term, casual or infrequent basis, factors such as " feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long- term or frequent use. A qualified practitioner should be consulted.

RESPIRATOR

·Type BAX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

■ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well- designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard " physically" away from the worker and ventilation that strategically " adds" and " removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in special circumstances. If risk of overexposure exists, wear approved respirator. Supplied- air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed storage areas.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Reddish colour corrosive liquid with a slight phenol and formaldehyde odour; mixes with water.

PHYSICAL PROPERTIES

Mixes with water.

Corrosive.

Alkaline.

State	LIQUID	Molecular Weight	Not applicable.
Melting Range (°C)	Not available.	Viscosity	55-85 cPs @ 30°C
Boiling Range (°C)	Not available.	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Available	pH (1% solution)	Not available
Decomposition Temp (°C)	Not available	pH (as supplied)	12 approx
Autoignition Temp (°C)	Not available	Vapour Pressure (kPa)	Not available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.199 approx
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not available
Volatile Component (%vol)	Not available	Evaporation Rate	Not available

State	LIQUID	Molecular Weight	Not applicable.
Melting Range (°C)	Not available.	Viscosity	55-85 cPs @ 30°C
Boiling Range (°C)	Not available.	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not Available	pH (1% solution)	Not available
Decomposition Temp (°C)	Not available	pH (as supplied)	12 approx
Autoignition Temp (°C)	Not available	Vapour Pressure (kPa)	Not available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.199 approx
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not available
Volatile Component (%vol)	Not available	Evaporation Rate	Not available

Section 10 - STABILITY AND REACTIVITY

- **WARNING:** This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS. Tenth Annual Report on Carcinogens: Substance anticipated to be Carcinogen [National Toxicology Program: U.S. Dep. of Health & Human Services 2002].

PHENOL:

TOXICITY	IRRITATION
Oral (rat) LD50:317 mg/kg	Skin(rabbit):500 mg/24hr - SEVERE
Oral (human) LDLo:140 mg/kg	Skin(rabbit):500 mg Open -SEVERE
Inhalation (rat) LC50:316 mg/m ³	Eye(rabbit):5 mg - SEVERE
Dermal (rabbit) LD50:850 mg/kg	Eye(rabbit):100 mg rinse - Mild

- The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.

WATER:

- No significant acute toxicological data identified in literature search.

CARCINOGEN

formaldehyde.	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1	Carcinogenic to humans
formaldehyde.	Australia Exposure Standards Currently Under Review	Carcinogen Category	2	
formaldehyde.	Australia Exposure Standards	Carcinogen Category	2	
formaldehyde.	Australia Exposure Standards - Carcinogens	Carcinogen Category	2	
phenol	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	3	Not classifiable as to its carcinogenicity to humans

SENSITISER

phenol/ formaldehyde resin	Australia Final Report on Hazard Classification of Common Skin Sensitisers	Recommended for Hazard Classification (R43)	No
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SKIN

phenol/ formaldehyde resin	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	3
sodium hydroxide	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	(3)
sodium hydroxide	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	3C
formaldehyde.	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	3
phenol	Australia Exposure Standards - Skin	Notes	Sk
phenol	GESAMP/EHS Composite List - GESAMP Hazard Profiles	D1: skin irritation/corrosion	3

Section 12 - ECOLOGICAL INFORMATION

PHENOL:

FORMALDEHYDE.:

- The material is classified as an ecotoxin* because the Fish LC50 (96 hours) is less than or equal to 0.1 mg/l
- * Classification of Substances as Ecotoxic (Dangerous to the Environment)

Appendix 8, Table 1

Compiler's Guide for the Preparation of International Chemical Safety Cards: 1993 Commission of the European Communities.

- Harmful to aquatic organisms.

PHENOL:

PHENOL/ FORMALDEHYDE RESIN:

- For Phenols:

Ecotoxicity - Phenols with log Pow >7.4 are expected to exhibit low toxicity to aquatic organisms however; the toxicity of phenols with a lower log Pow is variable. Dinitrophenols are more

SODIUM HYDROXIDE:

FORMALDEHYDE.:

PHENOL:

PHENOL/ FORMALDEHYDE RESIN:

- DO NOT discharge into sewer or waterways.

FORMALDEHYDE.:

PHENOL/ FORMALDEHYDE RESIN:

- For Formaldehyde:

Environmental Fate: Formaldehyde is common in the environment as a contaminant of smoke and as photochemical smog. Concentrated solutions containing formaldehyde are unstable

Atmospheric Fate: In the atmosphere, formaldehyde both photolysis and reacts with reactive free radicals (primarily hydroxyl radicals). Reaction with nitrate radicals, insignificant during

Aquatic/Terrestrial Fate: Due to its solubility, formaldehyde will efficiently transfer to rain and surface water and will biodegrade to low concentrations within days. Adsorption to sediment and volatility:

Drinking Water Standard: Formaldehyde: 900 µg/L. (WHO guideline).

Terrestrial Fate: In soil, aqueous solutions of formaldehyde leach through the soil; at high concentrations adsorption to clay minerals may occur. Although biodegradable under both aerobic

Ecotoxicity: Formaldehyde does not bioconcentrate in the food chain.

SODIUM HYDROXIDE:

- For Metal:

Atmospheric Fate - Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air.

Environmental Fate: Environmental processes, such as oxidation, the presence of acids or bases and microbiological processes, may transform insoluble metals to more soluble ionic forms

Aquatic/Terrestrial Fate: When released to dry soil, most metals will exhibit limited mobility and remain in the upper layer; some will leach locally into ground water and/ or surface water

Ecotoxicity: Even though many metals show few toxic effects at physiological pH levels, transformation may introduce new or magnified effects.

Prevent, by any means available, spillage from entering drains or water courses.

Ecotoxicity:

Fish LC50 (96h): 43mg/l

PHENOL:

Hazardous Air Pollutant:	Yes
Fish LC50 (96hr.) (mg/l):	0.001-56
Daphnia magna EC50 (48hr.) (mg/l):	56

Algae IC50 (72hr.) (mg/l):	4.6-7.5
BCF<100:	7.6
log Kow (Prager 1995):	1.46
log Kow (Sangster 1997):	1.5
log Pow (Verschuereen 1983):	1.46
BOD5:	1.68
COD:	2.33
ThOD:	2.26
Half-life Soil - High (hours):	240
Half-life Soil - Low (hours):	24
Half-life Air - High (hours):	22.8
Half-life Air - Low (hours):	2.28
Half-life Surface water - High (hours):	56.5
Half-life Surface water - Low (hours):	5.3
Half-life Ground water - High (hours):	168
Half-life Ground water - Low (hours):	12
Aqueous biodegradation - Aerobic - High (hours):	84
Aqueous biodegradation - Aerobic - Low (hours):	6
Aqueous biodegradation - Anaerobic - High (hours):	672
Aqueous biodegradation - Anaerobic - Low (hours):	192
Aqueous biodegradation - Removal secondary treatment - High (hours):	99.90%
Aqueous biodegradation - Removal secondary treatment - Low (hours):	90%
Aqueous photolysis half-life - High (hours):	173
Aqueous photolysis half-life - Low (hours):	46
Photolysis maximum light absorption - High (nano-m):	269
Aqueous photolysis half-life - High (hours):	173
Aqueous photolysis half-life - Low (hours):	46
Photooxidation half-life water - High (hours):	3840
Photooxidation half-life water - Low (hours):	77
Photooxidation half-life air - High (hours):	22.8
Photooxidation half-life air - Low (hours):	2.28

■ For Phenol:

Environmental Fate: In alkaline soils and water, phenol will partially exist as an anion, (negatively charged particle), which can affect its fate and transport processes.

Atmospheric Fate: Phenol may wash out of the atmosphere with precipitation, however; this may occur on a limited basis, due to the short half-life of phenol in the air. During the day, wh

Terrestrial Fate: Soil ?Phenol is biologically degraded in soil, under both oxygenated and low oxygen soil conditions ?breakdown under these conditions is expected to be rapid with virtua

Aquatic Fate: In water, evaporation and sorption to sediments/suspended particulates are not expected to be important transport mechanisms. Phenol will be broken down directly by sur

Ecotoxicity: Phenol is not expected to concentrate significantly in aquatic organisms. The substance ranges from low to moderate toxicity to aquatic organisms.

Koc: 39-148

Half-life (hr) air: 0.25-16

Half-life (hr) H2O surface water: 19-100

Henry's atm m³ /mol: 3.97E-07

BOD 5 if unstated: 1.68

COD: 2.28-2.37

ThOD: 2.26-2.40

BCF: 1.9-277

Nitrif. inhib.: 50% inhib at 9mg/L

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
phenol/ formaldehyde resin	No Data Available	No Data Available	LOW	No Data Available
sodium hydroxide	LOW	No Data Available	LOW	HIGH
formaldehyde.	LOW	LOW	LOW	HIGH
phenol	LOW	LOW	LOW	MED

Section 13 - DISPOSAL CONSIDERATIONS

· 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.

· 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).

· Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

Section 14 - TRANSPORTATION INFORMATION



Labels Required: CORROSIVE

HAZCHEM:

2X (ADG7)

ADG7:

Class or Division:	8	Subsidiary Risk:	None
UN No.:	1760	Packing Group:	II
Special Provision:	274	Limited Quantity:	1 L

Portable Tanks & Bulk Containers - Instruction:	T11	Portable Tanks & Bulk Containers - Special Provision:	TP2 TP27
Packagings & IBCs - Packing Instruction:	P001 IBC02	Packagings & IBCs - Special Packing Provision:	None

Name and Description: CORROSIVE LIQUID, N.O.S. (contains sodium hydroxide)

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1760	Packing Group:	II
Special provisions:	A3A803		

Shipping name: CORROSIVE LIQUID, N.O.S. (contains sodium hydroxide)

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1760	Packing Group:	II
EMS Number:	F-A,S-B	Special provisions:	274
Limited Quantities:	1 L		

Shipping name: CORROSIVE LIQUID, N.O.S. (contains sodium hydroxide)

Section 15 - REGULATORY INFORMATION

Indications of Danger:

C Corrosive

POISONS SCHEDULE S6

REGULATIONS**Regulations for ingredients****phenol/ formaldehyde resin (CAS: 9003-35-4) is found on the following regulatory lists;**

"Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Final Report on Hazard Classification of Common Skin Sensitisers", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution ?United Kingdom"

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

"Acros Transport Information", "Australia Exposure Standards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "Australia Inventory of Chemical Substances (AICS)", "Australia Quarantine and Inspection Service List of chemical compounds that are accepted solely for use at establishments registered to prepare meat and meat products for the purpose of the Export Control Act 1982", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix C", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "FisherTransport Information", "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", "International Numbering System for Food Additives", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-AldrichTransport Information", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments"

formaldehyde. (CAS: 50-00-0) is found on the following regulatory lists;

"Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (Domestic water supply - disinfection by-products)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm - Domestic water supply quality", "Australia - New South Wales - Work Health and Safety Regulation 2011 - Hazardous chemicals at major hazard facilities (and their threshold quantity) - Table 15.1", "Australia - Queensland Work Health and Safety Regulation - Hazardous chemicals at major hazard facilities (and their threshold quantity)", "Australia - South Australia - Work Health and Safety Regulations 2012 - Schedule 15 Hazardous chemicals at major hazard facilities (and their threshold quantity) Table 15.1", "Australia - Victoria Drugs, Poisons and Controlled Substances (Precursor Chemicals) Regs 2007 - Schedule 1 - Precursor Chemicals and Quantities", "Australia Dangerous Goods Code (ADG Code) - Goods Too Dangerous To Be Transported", "Australia Drinking Water Guideline Values For Physical and Chemical Characteristics", "Australia Exposure Standards", "Australia Exposure Standards Currently Under Review", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Illicit Drug Precursors/Reagents - Category II", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix C", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "Australia Work Health and Safety Regulations 2011 - Hazardous chemicals at major hazard facilities and their threshold quantity", "FisherTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Chemical Secretariat (ChemSec) SIN List (*Substitute It Now!)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "International Numbering System for Food Additives", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution ?Norway", "Sigma-AldrichTransport Information", "United Nations Consolidated List of Products Whose Consumption and/or Sale Have Been Banned, Withdrawn, Severely Restricted or Not Approved by Governments", "WHO Guidelines for Drinking-water Quality - Chemicals for which guideline values have not been established"

phenol (CAS: 108-95-2) is found on the following regulatory lists;

"Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - non-pesticide anthropogenic organics)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia - South Australia Controlled Substances (Poisons) Regulations - Schedule E: Schedule 2 poisons authorised to be sold by holder of a medicine sellers licence", "Australia - Victoria Occupational Health and Safety Regulations - Schedule 9: Materials at Major Hazard Facilities (And Their Threshold Quantity) Table 2", "Australia Australian Pesticides and Veterinary Medicines Authority (APVM) Record of approved active constituents", "Australia Exposure Standards", "Australia FAISD Handbook - First Aid Instructions, Warning Statements, and General Safety Precautions", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6", "FisherTransport Information", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "Sigma-AldrichTransport Information"

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "International Fragrance Association (IFRA) Survey: Transparency List", "OECD List of High Production Volume (HPV) Chemicals", "OSPAR National List of Candidates for Substitution ?Norway", "Sigma-AldrichTransport Information"

No data for Astaphen HL-815 (CW: 33-7246)

Section 16 - OTHER INFORMATION

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
sodium hydroxide	1310-73-2, 12200-64-5

REPRODUCTIVE HEALTH GUIDELINES

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
phenol	3.6 mg/m3	100	D	NA	-

■ These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996).

MSDS SECTION CHANGES

The following table displays the version number of and date on which each section was last changed.

Section Name	Version	Date	Section Name	Version	Date	Section Name	Version	Date
Appearance	2	30-Nov-2012						

■ 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.

■ 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. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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This is the end of the MSDS.