

**JASOL ADW 35**
Hazard Alert Code:
EXTREME

Chemwatch Material Safety Data Sheet

Revision No: 6

Chemwatch 8149-39

Issue Date: 2-Apr-2009

CD 2009/3

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

Jasol ADW 35

SYNONYMS

"Auto Dish Wash Powder"

PROPER SHIPPING NAME

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

PRODUCT USE

Heavy duty powdered machine dishwashing detergent. Recommended usage 3-5g/L of water in machine.

SUPPLIER

Company: Jasol Australia

Address:

41-45 Tarnard Drive

Braeside VIC 3195

Telephone: +613 9580 5722

Emergency Tel: 1 800 629 953

Fax: +613 9580 9902

Company: Jasol New Zealand

Address:

151B Marua Road

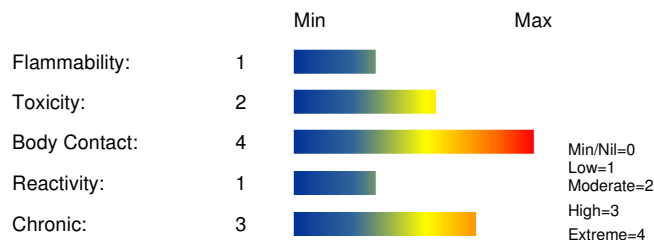
Auckland

Telephone: +64 9580 2105

Emergency Tel: 0800 243 622 (Chemcall)

Emergency Tel: 0800 764 766 (National Poisons Dunedin)

Fax: +64 9571 4388

HAZARD RATINGS

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE
HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.
POISONS SCHEDULE

S5

RISK

- Harmful by inhalation.
- Causes severe burns.
- Risk of serious damage to eyes.
- Toxic to aquatic organisms may cause long-term adverse effects in the aquatic environment.
- Dangerous for the ozone layer.
- Ingestion may produce health damage*.
- Cumulative effects may result following exposure*.
- May be harmful to the foetus/ embryo*.

* (limited evidence).

SAFETY

- Keep locked up.
- Use only in well ventilated areas.
- Keep container in a well ventilated place.
- Avoid exposure - obtain special instructions before use.
- To clean the floor and all objects contaminated by this material use water.
- This material and its container must be disposed of in a safe way.
- Take off immediately all contaminated clothing.
- In case of accident or if you feel unwell IMMEDIATELY contact Doctor or Poisons Information Centre (show label if possible).
- Use appropriate container to avoid environment contamination.
- Avoid release to the environment. Refer to special instructions/ safety data sheets.

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

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
nonhazardous ingredients		30-60
sodium carbonate	497-19-8	10-30
sodium metasilicate, anhydrous	6834-92-0	10-20
surfactants, unregulated		0-10
sodium dichloroisocyanurate	2893-78-9	0-5
sodium hydroxide	1310-73-2	0-4.99
decomposes when wet can releases		
chlorine	7782-50-5	

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.

INHALED

-
- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prosthesis 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

- 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.

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- 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.

FIRE/EXPLOSION HAZARD

-
- Solid which exhibits difficult combustion or is difficult to ignite.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
- Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.
- Usually the initial or primary explosion takes place in a confined space such as plant or machinery, and can be of sufficient force to damage or rupture the plant. If the shock wave from the primary explosion enters the surrounding area, it will disturb any settled dust layers, forming a second dust cloud, and often initiate a much larger secondary explosion. All large scale explosions have resulted from chain reactions of this type.
- Dry dust can also be charged electrostatically by turbulence, pneumatic transport, pouring, in exhaust ducts and during transport.
- Build-up of electrostatic charge may be prevented by bonding and grounding.
- Powder handling equipment such as dust collectors, dryers and mills may require additional protection measures such as explosion venting.
- All movable parts coming in contact with this material should have a speed of less than 1-metre/sec.

Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), silicon dioxide (SiO₂), metal oxides, other pyrolysis products typical of burning organic material.

May emit corrosive fumes.

May emit poisonous fumes.

FIRE INCOMPATIBILITY

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

HAZCHEM

2X

Personal Protective Equipment

Gas tight chemical resistant suit.

Section 6 - ACCIDENTAL RELEASE MEASURES**EMERGENCY PROCEDURES**

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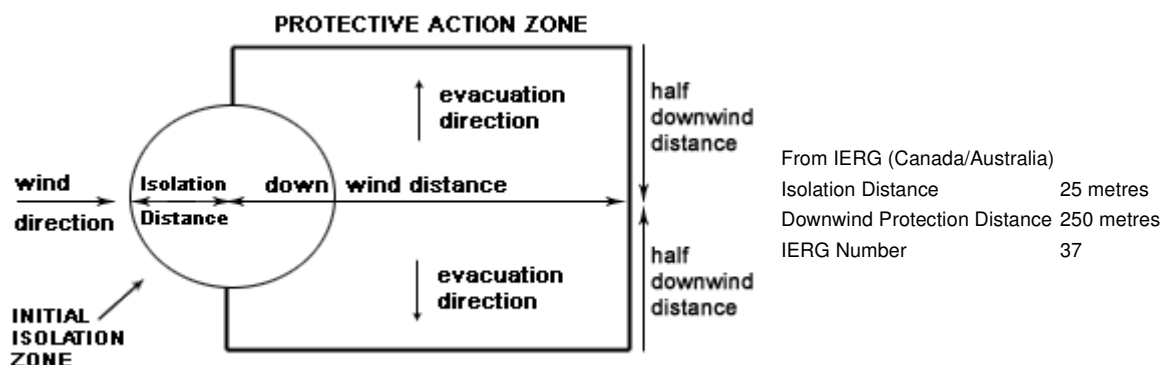
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MINOR SPILLS

- Environmental hazard - contain spillage.
- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid contact with skin and eyes.
- Control personal contact by using protective equipment.
- Use dry clean up procedures and avoid generating dust.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Environmental hazard - contain spillage.
- 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.
- 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**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 dichloroisocyanurate 20ppm

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

sodium dichloroisocyanurate 3ppm

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

sodium dichloroisocyanurate 1ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according exceed the following cutoffs

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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**

-
- 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 storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Empty containers may contain residual dust which has the potential to accumulate following settling. Such dusts may explode in the presence of an appropriate ignition source.

- Do NOT cut, drill, grind or weld such containers
- In addition ensure such activity is not performed near full, partially empty or empty containers without appropriate workplace safety authorisation or permit.

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 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.

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

-

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

-
- Metals and their oxides or salts may react violently with chlorine trifluoride and bromine trifluoride.
- These trifluorides are hypergolic oxidisers. They ignites on contact (without external source of heat or ignition) with recognised fuels - contact with these materials, following an ambient or slightly elevated temperature, is often violent and may produce ignition.
- The state of subdivision may affect the results.
- In presence of moisture, the material is corrosive to aluminium, zinc and tin producing highly flammable hydrogen gas.
- Avoid oxidising agents, acids, acid chlorides, acid anhydrides, chloroformates.
- 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.

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- Observe manufacturer's storing and handling recommendations.
- DO NOT store near acids, or oxidising agents
- No smoking, naked lights, heat or ignition sources.

SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS

X: Must not be stored together

O: May be stored together with specific preventions

+: May be stored together

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**EXPOSURE CONTROLS**

Source	Material	TWA ppm	TWA mg/m ³	STEL ppm	STEL mg/m ³	Peak ppm	Peak mg/m ³	TWA F/CC	Notes
Australia Exposure Standards	sodium dichloroisocyanurate (Chlorine)					1	3		
Australia Exposure Standards	sodium hydroxide (Sodium hydroxide)						2		
Australia Exposure Standards	chlorine (Chlorine)					1	3		

The following materials had no OELs on our records

- sodium carbonate: CAS:497-19-8
- sodium metasilicate, anhydrous: CAS:6834-92-0

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
sodium dichloroisocyanurate		10
sodium hydroxide	10	
chlorine		10

MATERIAL DATA

JASOL ADW 35:

Not available

SODIUM CARBONATE:

- It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

OEL STEL: (Russia) 5 mg/m³**SODIUM METASILICATE, ANHYDROUS:**

- Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically

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- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

No specific exposure limits have been established for soluble silicates.

For liquids the creation of aerosols should be avoided. For powders, general dust exposure limits according to regulation will apply (typically 1 - 10 mg/m³). For corrosive soluble silicates (Molar Ratio SiO₂:M₂O CEL TWA: 2 mg/m³ [Manufacturer])

SODIUM DICHLOROISOCYANURATE:

- Odour Threshold Value: 0.08 ppm (detection) - olfactory fatigue may develop

NOTE: Detector tubes for chlorine, measuring in excess of 0.2 ppm, are commercially available. Long-term measurements (8 hrs) may be conducted to detect concentrations exceeding 0.13 ppm.

Smell is not a good indicator of severity of exposure in the range 0.5 to 2 ppm. In this range subjects found exposure unpleasant with itching and burning of the throat reported and occasionally an urge to cough. Significant differences in the responses of males and females were also recorded with females often reporting headache and drowsiness.

Exposure at 1 ppm chlorine for 8 hours produced significant changes in pulmonary function and increased subjective irritation.

Similar 8 hour exposures at 0.5 ppm produced no significant pulmonary function changes and less severe subjective irritation.

Exposures for 2 hours at 2 ppm chlorine produced no significant changes in pulmonary irritation.

An 8 hour exposure at 1.5 ppm produced increased mucous secretion from the nose and increased mucous in the hypopharynx.

Exposure at or below the TLV-TWA and STEL is thought to protect the worker against annoying symptoms in nose, throat and conjunctiva and declines in pulmonary function.

Odour Safety Factor(OSF)

OSF=1.6 (CHLORINE).

REL: 0.5 mg/m³; STEL: 1.5 mg/m³ [Manfr.]

CHLORINE:

- Not available. Refer to individual constituents.

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]

HANDS/FEET

- Elbow length PVC gloves
- Suitability and durability of glove type is dependent on usage. Factors such as:
- frequency and duration of contact,
 - chemical resistance of glove material,
 - glove thickness and
 - dexterity,
- are important in the selection of gloves.

OTHER

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

RESPIRATOR

- Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half-face Respirator	Full-Face Respirator
1000	10	AB-AUS P	-
1000	50	-	AB-AUS P
5000	50	Airline *	-
5000	100	-	AB-2 P
10000	100	-	AB-3 P
	100+		Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand.

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

- Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only.	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood-local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**APPEARANCE**

White granular highly alkaline powder with a slight smell of chlorine; soluble in water.

PHYSICAL PROPERTIES

Mixes with water.

Corrosive.

Alkaline.

Molecular Weight: Not Applicable	Boiling Range (°C): Not Applicable	Melting Range (°C): Not Applicable
Specific Gravity (water=1): Not Applicable	Solubility in water (g/L): Miscible	pH (as supplied): Not Applicable
pH (1% solution): Not Available	Vapour Pressure (kPa): Not Applicable	Volatile Component (%vol): Not Applicable

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Evaporation Rate: Not Applicable	Relative Vapour Density (air=1): Not Applicable	Flash Point (°C): Not Applicable
Lower Explosive Limit (%): Not Applicable	Upper Explosive Limit (%): Not Applicable	Autoignition Temp (°C): Not Available
Decomposition Temp (°C): Not Available	State: DIVIDED SOLID	Viscosity: Not Applicable

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**POTENTIAL HEALTH EFFECTS****ACUTE HEALTH EFFECTS****SWALLOWED**

■ Ingestion of alkaline corrosives may produce burns around the mouth, ulcerations and swellings of the mucous membranes, profuse saliva production, with an inability to speak or swallow. Both the oesophagus and stomach may experience burning pain; vomiting and diarrhoea may follow. Epiglottal swelling may result in respiratory distress and asphyxia; shock can occur. Narrowing of the oesophagus, stomach or stomach valve may occur immediately or after a long delay (weeks to years). Severe exposure can perforate the oesophagus or stomach leading to infections of the chest or abdominal cavity, with low chest pain, abdominal stiffness and fever. All of the above can cause death.

Considered an unlikely route of entry in commercial/industrial environments.

EYE

■ If applied to the eyes, this material causes severe eye damage.

Direct eye contact with corrosive bases can cause pain and burns. There may be swelling, epithelium destruction, clouding of the cornea and inflammation of the iris. Mild cases often resolve; severe cases can be prolonged with complications such as persistent swelling, scarring, permanent cloudiness, bulging of the eye, cataracts, eyelids glued to the eyeball and blindness.

SKIN

■ The material can produce severe chemical burns following direct contact with the skin.

Skin contact with alkaline corrosives may produce severe pain and burns; brownish stains may develop. The corroded area may be soft, gelatinous and necrotic; tissue destruction may be deep.

Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

■ Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful.

Inhaling corrosive bases may irritate the respiratory tract. Symptoms include cough, choking, pain and damage to the mucous membrane. In severe cases, lung swelling may develop, sometimes after a delay of hours to days. There may be low blood pressure, a weak and rapid pulse, and crackling sounds.

CHRONIC HEALTH EFFECTS

■ Repeated or prolonged exposure to corrosives may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.

Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray.

Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis).

TOXICITY AND IRRITATION

■ Not available. Refer to individual constituents.

SODIUM CARBONATE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 4090 mg/kg

Inhalation (rat) LC50: 2300 mg/m³/2h

IRRITATION

Skin (rabbit): 500 mg/24h Mild

Eye (rabbit): 100 mg/24h Moderate

Eye (rabbit): 100 mg/30s Mild

Eye (rabbit): 50 mg SEVERE

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on

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methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

SODIUM METASILICATE, ANHYDROUS:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 1153 mg/kg

IRRITATION

Skin (human): 250 mg/24h SEVERE

Skin (rabbit): 250 mg/24h SEVERE

■ The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

SODIUM DICHOROISOCYANURATE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Oral (human) LDLo: 3570 mg/kg

Eye (rabbit): 10 mg/24hr-Moderate

Dermal (rabbit) LD50: 6000 mg/kg

Skin (rabbit) : SEVERE *

Inhalation (human) LCLo: 500 ppm/5 minutes

Inhalation (rat) LC50: 293 ppm/1 hour

Oral (Human) LD: 3570 mg/kg

Oral (Rat) LD50: 1420 mg/kg

Oral (Rabbit) LD: 2500 mg/kg

Oral (Rat) LD50: 700 mg/kg *

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

Dermal (rabbit) LD50: 3160-5100 mg/kg

* Manufacturer

SODIUM HYDROXIDE:

■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

Skin (rabbit): 500 mg/24h SEVERE

Eye (rabbit): 0.05 mg/24h SEVERE

Eye (rabbit):1 mg/24h SEVERE

Eye (rabbit):1 mg/30s rinsed-SEVERE

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the

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irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.

The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.

Section 12 - ECOLOGICAL INFORMATION

Marine Pollutant:

Not Determined

- Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- DO NOT discharge into sewer or waterways.

Refer to data for ingredients, which follows:

SODIUM DICHLOORISOCYANURATE:

CHLORINE:

- Very toxic to aquatic organisms.

SODIUM DICHLOORISOCYANURATE:

CHLORINE:

- Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

SODIUM DICHLOORISOCYANURATE:

CHLORINE:

- For chlorine:

Environmental fate:

Atmospheric chlorine produced as a result of such process as disinfection forms hydrochloric (HCl) or hypochlorous (HOCl) acid in the atmosphere, either through reactions with hydroxy radicals or other trace species such as hydrocarbons. These acids are believed to be removed from the atmosphere primarily through precipitation washout (i.e. wet deposition as chlorine is scrubbed out by rain in the subcloud layer) or dry deposition as gaseous chlorine contacts and reacts with the earth's surface.

Water chlorination, resulting from municipal and industrial wastewater treatment and cooling water disinfection, initially introduces chlorine into the water as chlorine gas, hypochlorite ion (OCl⁻), or its salt. These forms of chlorine are termed free residual chlorines (FRC). Chlorine in aqueous systems volatilises or quickly decays to residual forms such as hypochlorous acid, chloramine and chlorinated organics. Aquatic chemistry is determined by aquatic factors including pH, ammonium ion (which combines with chlorine to produce chloramine) and certain other reducing agents. Inorganic reducing agents in estuarine waters include sulfur, iron and manganese. Other organic compounds in water also contribute to chlorine decay rate. The reactions of chlorine or hypochlorites in water produce a number of by-products many of which have been implicated as genotoxic or tumourigenic.

Chlorine, added to drinking water as chlorine gas (Cl₂) or hypochlorite salts (e.g., NaOCl), effectively inactivates bacteria in 20 minutes at concentrations of 0.03 to 0.06 mg/l at pH range of 7.0 to 8.5 and temperature range of 4 deg.C to 22 deg.C.

Chlorine disinfectants in wastewater react with organic matters, giving rise to organic chlorine compounds such as AOX (halogenated organic compounds absorbable on activated carbon), which are toxic to aquatic organisms and are persistent environmental contaminants.

Chlorine hydrolyses very rapidly in water (rate constants range from 1.5 x 10⁻⁴ at deg. C to 4.0 x 10⁻⁴ at 25 deg.C; half-life in natural waters, 0.005 seconds. In fresh and wastewaters at pH >6, complete hydrolysis occurs with the formation of hypochlorous acid (HOCl) and chloride ion (Cl⁻). The hypochlorous acid ionizes to hydrogen ion (H⁺) and hypochlorite ion (OCl⁻). At pH values >5, OCl⁻ predominates; at pH values <5, HOCl predominates. Free chlorine (Cl₂, HOCl, and OCl⁻) reacts rapidly with inorganics such as bromide and more slowly with organic material present in natural waters. These reactions yield chloride, oxidised organics, chloroorganics (including trihalomethanes), oxygen, nitrogen, chlorate, bromate and bromoorganics.

Chlorines ultimate aqueous fate is chloride.

Vapourisation of molecular chlorine (Cl₂) from water to the atmosphere may be significant at low pH values and high concentrations (e.g., pH 2 and 3500 mg/l chlorine), but is insignificant at neutral pH and low concentrations.

Vegetation acts as an important sink for chlorine air pollution. Plant exposure to elevated levels of chlorine can cause plant injury; however chlorine tends to be rapidly converted to other less toxic forms.

Atmospheric: When chlorine, hypochlorous acid or hydrogen chloride mixes in the atmosphere with water vapour, dilute solutions of strong mineral acids are formed that fall to earth as acid rain, snow, and fog, or acidified dry particles.

Chlorine may react with soil components to form chlorides; depending on their water solubility, these chlorides are easily washed out from the soil.

Bioaccumulation/ bioconcentration: There is no potential for the bioaccumulation or bioconcentration of chlorine.

Ecotoxicity:

Fish LC50 (96 h): 0.015-13.5 mg/l

Chlorine has high acute toxicity to aquatic organisms; many toxicity values are less than or equal to 1 mg/l. Twenty-four-hour LC50 values range from 0.076 to 0.16 mg/l for *Daphnia magna* (water flea) and from 0.005 to 0.1 mg/l for *Daphnia pulex* (cladocern); 48-hour LC50 values range from 5.3 to 12.8 mg/l for *Nitocra spinipes* (snail); and 96-hour LC50 values range from 0.13 to 0.29 mg/L for *Oncorhynchus mykiss* (rainbow trout), from 0.1 to 0.18 mg/l for *Salvelinus fontinalis* (brook trout), and from 0.71-0.82 mg/l for *Lepomis cyanellus* (green sunfish)

Papillomas of the oral cavity in fish have been associated with exposure to chlorinated water supplies.

Chlorine is phytotoxic but is also essential to plant growth; crops need around 2 kg or more of chlorine per acre. Acute toxicity to plants is characterized by defoliation with no leaf symptoms and, in higher plant forms, by spotting of the leaves (at 1.5 mg/m³) and marginal and interveinal injury (at 150-300 mg/m³)

Data from experimental studies indicate that injury to animals occurs only in the presence of high concentrations of chlorine, either

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in drinking water or the ambient atmosphere.

http://www.epa.gov/chemfact/s_chlori.txt

U.S. ENVIRONMENTAL PROTECTION AGENCY August 1994.

SODIUM METASILICATE, ANHYDROUS:

SODIUM HYDROXIDE:

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

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Marine Pollutant:

Not Determined

■ Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

SODIUM CARBONATE:

SODIUM METASILICATE, ANHYDROUS:

■ Soluble silicates are wholly inorganic and once diluted have no significant environmental impact. They are saturated with respect to oxygen and as such do not possess a chemical oxygen demand (COD) or a biological oxygen demand (BOD). Depending on pH values soluble silicates in effluent and surface waters are rapidly dispersed and neutralised, by reaction with naturally occurring dissolved polyvalent metals (e.g. Ca, Mg, Al, Fe) forming insoluble silicates or amorphous silica. These products occur in abundance in natural soils and rocks. Dissolved silica resulting from commercial soluble silicates is also indistinguishable from naturally dissolved silica. The soluble silica input to the natural silica cycle from commercial use is furthermore inconsequential in view of the relative size and flux of the natural system. Concentrations of silica in natural waters commonly range from 1 to around 30 mg/l. Higher concentrations (up to 360 mg/l), however, have been found in some groundwaters where these high levels are related to rock type and water temperatures.

A study of the fate and possible effects of soluble silicates (waterglass) emissions to surface water has been performed by TNO (Apeldoorn NL, 2002). From the results of this study, no significant adverse effects to aquatic systems are to be assumed.

Depending on pH values, reaction with naturally occurring dissolved polyvalent metals (e.g. Ca, Mg, Fe, Al) will result in insoluble silicate or amorphous silica being formed. These products occur in abundance in natural soils and rocks. Dissolved silica resulting from commercial soluble silicates is also indistinguishable from naturally dissolved silica.

Soluble silicates are totally insoluble in n-octanol (and most other organic solvents). The oil/water partition coefficient of these substances is therefore not applicable. Soluble silicates have no potential for bioaccumulation.

Untreated soluble silicate solutions are generally alkaline (pH values > 9) and therefore neutralisation should be carried out before discharging to water/ effluent systems. Once neutralised, no adverse effects on aquatic biosystems are known.

SODIUM DICHLOROISOCYANURATE:

/53#90dcic

If introduced in concentrations not exceeding 10 mg/L, the decomposing activity of the activated sludge in an operating water treatment plant should not be affected.

Fish Toxicity: LC50 <1mg/L/48Hr (Rainbow Trout) [BASF]

SODIUM HYDROXIDE:

■ Metal-containing inorganic substances generally have negligible vapour pressure and are not expected to partition to air. Once released to surface waters and moist soils their fate depends on solubility and dissociation in water. Environmental processes (such as oxidation and the presence of acids or bases) may transform insoluble metals to more soluble ionic forms. Microbiological processes may also transform insoluble metals to more soluble forms. Such ionic species may bind to dissolved ligands or sorb to solid particles in aquatic or aqueous media. A significant proportion of dissolved/ sorbed metals will end up in sediments through the settling of suspended particles. The remaining metal ions can then be taken up by aquatic organisms.

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 ecosystems when soaked by rain or melt ice. Environmental processes may also be important in changing solubilities.

Even though many metals show few toxic effects at physiological pHs, transformation may introduce new or magnified effects.

A metal ion is considered infinitely persistent because it cannot degrade further.

The current state of science does not allow for an unambiguous interpretation of various measures of bioaccumulation.

The counter-ion may also create health and environmental concerns once isolated from the metal. Under normal physiological conditions the counter-ion may be essentially insoluble and may not be bioavailable.

Environmental processes may enhance bioavailability.

Ecotoxicity:

Fish LC50 (96h): 43mg/l

CHLORINE:

Marine Pollutant:

Yes

■ Hazardous Air Pollutant:

Yes

■ Fish LC50 (96hr.) (mg/l):

0.44

■ Daphnia magna EC50 (48hr.) (mg/l):

0.49 (96hr)

■ 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.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
Jasol		No		
ADW 35		data		
sodium		No		
carbonate		data		
sodium		No		
metasilicate,		data		
anhydrous				
sodium		No		
dichloroisocyanurate		data		
sodium		No		

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hydroxide
chlorinedata
No
data**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: Mixing or slurring in water; Neutralisation followed by: Burial in a licenced land-fill 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: 4W (ADG6)
Land Transport UNDG:

Class or division:	8	Subsidiary risk:	None
UN No.:	1759	UN packing group:	II

Shipping Name: CORROSIVE SOLID, N.O.S. (contains sodium hydroxide)

Air Transport IATA:

ICAO/IATA Class:	8	ICAO/IATA Subrisk:	None
UN/ID Number:	1759	Packing Group:	II
Special provisions:	A3		

Shipping Name: CORROSIVE SOLID, N.O.S. *(CONTAINS SODIUM HYDROXIDE)

Maritime Transport IMDG:

IMDG Class:	8	IMDG Subrisk:	None
UN Number:	1759	Packing Group:	II
EMS Number:	F-A,S-B	Special provisions:	274 944
Limited Quantities:	1 kg	Marine Pollutant:	Not Determined

Shipping Name: CORROSIVE SOLID, N.O.S.(contains sodium hydroxide)

Section 15 - REGULATORY INFORMATION**POISONS SCHEDULE**

S5

REGULATIONS

Regulations for ingredients

sodium carbonate (CAS: 497-19-8) is found on the following regulatory lists;

"Australia Hazardous Substances","Australia High Volume Industrial Chemical List (HVICL)","Australia Inventory of Chemical Substances (AICS)","CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP","GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships","IMO IBC Code Chapter 17: Summary of minimum requirements","International Council of Chemical Associations (ICCA) - High Production Volume List","OECD Representative List of High Production Volume (HPV) Chemicals"

sodium metasilicate, anhydrous (CAS: 6834-92-0) is found on the following regulatory lists;

"Australia Hazardous Substances","Australia High Volume Industrial Chemical List (HVICL)","Australia Inventory of Chemical Substances (AICS)","International Council of Chemical Associations (ICCA) - High Production Volume List","OECD Representative List of High Production Volume (HPV) Chemicals"

sodium dichloroisocyanurate (CAS: 2893-78-9) is found on the following regulatory lists;

"Australia Hazardous Substances","Australia Inventory of Chemical Substances (AICS)","Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)","International Air Transport Association (IATA) Dangerous

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Goods Regulations", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

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

"Australia Exposure Standards", "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 Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "GESAMP/EHS Composite List of Hazard Profiles - Hazard evaluation of substances transported by ships", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

chlorine (CAS: 7782-50-5) is found on the following regulatory lists;

"Australia - Australian Capital Territory - Environment Protection Regulation: Ambient environmental standards (AQUA/1 to 6 - inorganic chemicals)", "Australia - Australian Capital Territory - Environment Protection Regulation: Pollutants entering waterways taken to cause environmental harm (Aquatic habitat)", "Australia - Australian Capital Territory Environment Protection Regulation Pollutants entering waterways - Domestic water quality", "Australia - Queensland Hazardous Materials and Prescribed Quantities for Major Hazard Facilities", "Australia Exposure Standards", "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 Drugs and Poisons (SUSDP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix G", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix J (Part 2)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 7", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals", "WHO Guidelines for Drinking-water Quality - Guideline values for chemicals that are of health significance in drinking-water"

No data for Jasol ADW 35 (CW: 8149-39)**Section 16 - OTHER INFORMATION****EXPOSURE STANDARD FOR MIXTURES**

■ "Worst Case" computer-aided prediction of spray/ mist or fume/ dust components and concentration: ■ Composite Exposure Standard for Mixture (TWA) :2 mg/m³. ■ Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone. If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed. Component Breathing Zone ppm Breathing Zone mg/m³ Mixture Conc (%).

Component	Breathing zone (ppm)	Breathing zone (mg/m ³)
Mixture Conc (%)	sodium metasilicate, anhydrous	2.0000
20.0		

■ 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.

■ 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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NOTES

This substance should be managed in accordance with the requirements specified in the Cleaning Products (Corrosive) Group Standard 2006, HSNO Approval Number HSR002526.