


**1. Identification**

Product identifier	Hercules	
Recommended use of the chemical and restrictions on use	A general purpose, industrial degreaser suitable for the removal of fats, oils and stubborn dirt from motor vehicle engine parts, floors and walls.	
Details of manufacturer or importer	Company Name	Chemwell Pty Ltd ABN 94 155 544 040
	Address	3 Clive St, Springvale, VIC, 3171
	Phone	03 9558 5678
	Email	<a href="mailto:chemwell@chemwell.com.au">chemwell@chemwell.com.au</a>
	Website	<a href="http://www.chemwell.com.au">www.chemwell.com.au</a>
Emergency phone number	Police, Fire & Ambulance	000
	Poisons Information Centre	13 11 26

**2. Hazard(s) Identification**

This material is hazardous according to criteria of Safe Work Australia.

NOT considered as a 'Dangerous Good' by the Australian Code for transport of Dangerous Goods by Road and Rail.

Classification of the hazardous chemical	Acute Toxicity, Oral 5 Eye Damage/Irritation 2A Skin Corrosion/Irritation 2	
Hazard symbols		
Signal word(s)	Warning	
Hazard statement(s)	H303 - May be harmful if swallowed H315 - Causes skin irritation H319 - Causes serious eye irritation	
Precautionary statement(s)	Prevention	P264 - Wash thoroughly after handling. P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Response	<p>P312 - Call a POISON CENTER or doctor if you feel unwell.</p> <p>P302+352 - IF ON SKIN: Wash with plenty of water.</p> <p>P321 - Specific treatment (see ... on this label).</p> <p>P332+313 - If skin irritation occurs: Get medical advice/attention.</p> <p>P362 - Take off contaminated clothing.</p> <p>P305+351+338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.</p> <p>P337+313 - If eye irritation persists get medical advice/attention.</p>
Storage	
Disposal	

### 3. Composition and Information on Ingredients

Name	Proportion
Sodium Hydroxide	<10%
Trisodium Phosphate	<10%
Nonyl Phenol Ethoxylated	<10%
2-Butoxyethanol	<10%

Disclosure of ingredients is only required if an ingredient causes the classification of the chemical to include a hazard class and hazard category in the following list:

- Acute toxicity (oral, dermal and inhalation) – Category 1 to 4
- Respiratory sensitiser – Category 1
- Skin sensitiser – Category 1
- Mutagenicity – Category 1 or 2
- Carcinogenicity – Category 1 or 2
- Toxic to reproduction – Category 1 or 2
- Target organ toxicity (single exposure) – Category 1 or 2
- Target organ toxicity (repeat exposure) – Category 1 or 2
- Aspiration hazards – Category 1
- Skin corrosion or irritation – Category 1 or 2
- Serious eye damage or eye irritation – Category 1 or 2A

### 4. First Aid Measures

Swallowed	Immediately rinse mouth out thoroughly with water and give water to drink. DO NOT induce vomiting. Seek medical advice.
Eye	Immediately irrigate eyes with large amounts of water for at least 15 minutes with eyelids held

	open. Take care not to rinse contaminated water into the non-affected eye. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. Seek medical advice.
Skin	Immediately wash affected area with large amounts of water. Remove any contaminated clothing and wash before re-use. Seek medical advice if pain or irritation persists.
Inhaled	For all but minor symptoms seek medical advice. Not considered a normal feature of use.
First Aid Facilities	Standard first aid facilities.
Advice to Doctor	Treat symptomatically based on judgement of doctor and individual reactions of patient.

## 5. Fire Fighting Measures

Suitable extinguishing equipment	Use water spray, alcohol-resistant foam, dry agent (carbon dioxide, dry chemical powder).
Specific hazards arising from the chemical	<p>During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Hazardous products of combustion for each ingredient are:</p> <p>Ingredient 1) Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen.</p> <p>Ingredient 3) Sodium and phosphorus oxides may form when heated to decomposition.</p> <p>Ingredient 4) On combustion, may emit toxic fumes of carbon monoxide (CO).</p> <p>Ingredient 5) Combustion products may include but are not limited to: Carbon monoxide. Carbon dioxide.</p>
Special protective equipment and precautions for fire fighters	<p>Wear positive-pressure, self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant section.</p> <p>Container may rupture from gas generation in a fire situation. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.</p> <p>HazChem (EAC): 2R</p>

## 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures	Personnel involved in the clean-up should wear protective clothing as listed in section 8. Use clean, non-sparking tools and equipment. Avoid breathing vapours and contact with skin and eyes. Remove contaminated clothing and wash before reuse.
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	<p>Eliminate all sources of ignition. Increase ventilation.</p> <p>Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. Clean up all spills immediately. Clear area of all unnecessary personnel.</p>
Environmental precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	<p>Avoid walking through spilled product as it may be slippery. Stop leak if safe to do so. This may involve tipping container on its side. Clean up all spills immediately. Clear area of all unnecessary personnel. If safe to do so repack leaking container into new container.</p> <p>Place inert, absorbent, non-combustible material onto spillage. Wipe up. Place in a suitable, labelled container for waste disposal.</p>

## 7. Handling and Storage

Handling	<p>Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Check Section 8 for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the counteracting workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.</p>
Storage	<p>Store in a cool, well ventilated area. Check containers periodically for corrosion and leaks. Containers should be kept closed in order to minimise contamination. Containers should be protected against any form of physical damage indeterminate goodness wellbeing always. Have appropriate fire extinguishers available in and near storage area. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10.</p>

## 8. Exposure Controls and Personal Protection

Exposure standards	<p>No value assigned for this specific material by Safe Work Australia. However, Exposure Standard(s) for ingredient(s) are:</p> <p>Ingredient 1) No Data Available</p> <p>Ingredient 3) AIHA Workplace Environmental Exposure Limits: 5mg/m3 (15 minute STEL)</p> <p>Ingredient 4) None specified.</p>
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	<p>Ingredient 5) 96.9 mg/m<sup>3</sup> AU OEL TWA 242 mg/m<sup>3</sup> AU OEL STEL</p>
Biological limits	<p>Biological limits for ingredient(s) are:</p> <p>Ingredient 1) No information available on biological limit values for this product.</p> <p>Ingredient 3) No biological limit values have been entered for this product.</p> <p>Ingredient 4) None specified.</p> <p>Ingredient 5) No biological limit values have been entered for this product.</p>
Engineering controls	<p>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.</p>
Personal protective equipment (PPE)	<p>Safety glasses with side shields. Chemical protective gloves.</p>

## 9. Physical and Chemical Properties

Appearance (physical state, colour etc.)	A deep red, clear liquid
Odour	Solvent odour
Odour threshold	Not specified
pH	12-13
Melting point/freezing point	Not specified
Initial boiling point and boiling range	Not specified
Flash point	Not flammable
Evaporation rate	Not specified
Flammability (solid, gas)	Not specified
Upper/lower flammability or explosive limits	Not specified

Rejonasus Factor	Not specified
Vapour pressure	Not specified
Vapour density	Not specified
Relative density	Not specified
Solubility	Soluble in water
Partition coefficient: n-octanol/water	Not specified
Auto-ignition temperature	Not specified
Decomposition temperature	Not specified
Viscosity	Not specified

## 10. Stability and Reactivity

Reactivity	Reacts exothermically with acids.
Chemical stability	Stable under normal ambient storage and handling conditions.
Possibility of hazardous reactions	No data available.
Conditions to avoid	No data available.
Incompatible materials	No data available.
Hazardous decomposition products	See section 5.

## 11. Toxicological Information

Acute Toxicity, Dermal	Not Applicable
Acute Toxicity, Dusts And Mists	Not Applicable
Acute Toxicity, Gases	Not Applicable
Acute Toxicity, Inhalation	Not Applicable
Acute Toxicity, Oral	Category 5
Acute Toxicity, Vapours	Not Applicable
Skin Corrosion/Irritation	Category 2
Eye Damage/Irritation	Category 2A
Respiratory Sensitization	Not Applicable
Skin Sensitization	Not Applicable
Germ Cell Mutagens	Not Applicable
Carcinogenicity	Not Applicable
Reproductive Toxicity	Not Applicable
Specific Target Organ Toxicity RE	Not Applicable

Specific Target Organ Toxicity SE	Not Applicable
Aspiration Hazard	Not Applicable

### **Toxicological Information for Sodium Hydroxide**

#### **General Information:**

##### Animal Toxicity

Oral LDLO Rabbit: 500 mg/kg

Skin, Rabbit, Adult, 500 mg/24h Severe irritation

Eye, Rabbit, Adult 50mg/24h Severe irritation

Intra peritoneal, Mouse, LD50 40mg/kg

Specific target organ toxicity - repeated exposure: Corrosive substance. In addition, the substance is not expected to be systemically available in the body under normal handling and use conditions and therefore systemic effects of the substance after repeated exposure are not expected to occur.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction);

**Carcinogenicity:** The substance did not induce mutagenicity in in vitro and in vivo studies (EU RAR, 2007). Systemic carcinogenicity is not expected to occur because the substance is not expected to be systemically available in the body under normal handling and use conditions.

**Germ cell mutagenicity:** Both the in vitro and the in vivo genetic toxicity tests indicated no evidence of mutagenic activity. Furthermore the substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary (EU RAR, 2007).

**Reproductive toxicity:** The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the foetus nor reach male and female reproductive organs.

**Reproductive toxicity, effects on or via lactation;** The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary.

**Eye Irritant:** Causes severe burns. Can cause ulceration of the conjunctiva and cornea.

**Ingestion:** Causes severe burns. Burns to the mouth, esophagus, can cause intestinal perforation.

**Inhalation:** Causes severe burns. Irritation of the respiratory system.

**Skin Irritant:** Causes severe burns. Intense burning and ulcers penetrating the skin.

**Carcinogen Category:** 0

### **Toxicological Information for Trisodium Phosphate**

**Acute toxicity** Oral LD50 Rat: 7400 mg/kg (Trisodium Phosphate Dodecahydrate)

**Skin** Causes irritation to skin. Symptoms include redness, itching and pain. Extent of damage depends on duration of contact. More serious effect may occur if the skin is moist. Aqueous, high alkaline solutions may produce caustic burns.

**Eye** Causes irritation to eyes, may be severe with possible corneal damage. Aqueous, highly alkaline solutions may produce caustic burns.

**Inhalation** Causes irritation to the respiratory tract. Symptoms may include coughing, shortness of breath. Behaves as a moderately strong alkali: intense exposure may result in the destruction of mucous membranes. May cause asthmatic bronchitis, chemical pneumonitis or pulmonary oedema.

**Ingestion** Causes irritation to the gastrointestinal tract. Symptoms may include nausea, vomiting and diarrhoea. May cause mild burning of mouth, throat and stomach. Its alkaline nature may injure the oesophagus and digestive tract. Aqueous, highly alkaline solutions may produce caustic burns.

**Sensitization** Not determined.

**Mutagenicity** Not mutagenic in Ames Test

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

**STOT - single exposure** May cause respiratory irritation.

**STOT - repeated exposure** No data available.

**Aspiration** No data available.

#### **Toxicological Information for Nonyl Phenol Ethoxylated**

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

**Ingestion:** Swallowing can result in nausea, vomiting, diarrhoea, and abdominal pain.

**Eye contact:** An eye irritant.

**Skin contact:** Contact with skin will result in irritation. Will have a degreasing action on the skin. Repeated or prolonged skin contact may lead to irritant contact dermatitis.

**Inhalation:** Breathing in mists or aerosols may produce respiratory irritation.

**Acute toxicity:** Oral LD50 (rat): <2000 mg/kg.

**Skin corrosion/irritation:** Irritant.

**Serious eye damage/irritation:** Irritant.

**Chronic effects:** No information available for the product.

#### **Toxicological Information for 2-Butoxyethanol**

##### **Acute toxicity**

**Ingestion** Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. In animals, effects have been reported on the following organs: blood (haemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to haemolysis than those of rodents and rabbits. Massive ingestion of ethylene glycol monobutyl ether (attempted suicides) may produce metabolic acidosis and subsequent secondary effects such as haemolysis, central nervous system and kidney effects.

LD50, rat 1,300 mg/kg

LD50, Guinea pig, 1,400 mg/kg

**Dermal** Prolonged skin contact to animals which are less sensitive to haemolysis, as are humans, did not result in the absorption of harmful amounts.

LD50, guinea pig > 2,000 mg/kg

**Inhalation** Excessive exposure may cause irritation to upper respiratory tract (nose and throat). In humans, symptoms may include: Headache. In animals, effects have been reported on the following organs: blood (haemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to haemolysis than those of rodents and rabbits.



LC0, 1 h, Vapour, Guinea pig > 3.1 mg/l No deaths occurred at this concentration.

**Eye** May cause severe eye irritation. May cause moderate corneal injury. Effects may be slow to heal. Vapour may cause eye irritation experienced as mild discomfort and redness.

**Skin** Brief contact may cause slight skin irritation with local redness. Repeated exposure may cause irritation, even a burn. May cause more severe response on covered skin (under clothing, gloves).

**Sensitization** Skin: Did not cause allergic skin reactions when tested in humans. Did not cause allergic skin reactions when tested in guinea pigs.

**Respiratory:** No relevant data found.

**Chronic Toxicity & Carcinogenicity** In long-term animal studies with ethylene glycol butyl ether, small but statistically significant increases in tumours were observed in mice but not rats. The effects are not believed to be relevant to humans. If the material is handled in accordance with proper industrial handling procedures, exposures should not pose a carcinogenic risk to man.

**Developmental** Has been toxic to the foetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive** In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.

**Genetic** In vitro genetic toxicity studies were predominantly negative. Animal genetic toxicity studies were negative.

**STOT - repeated exposure** In animals, effects have been reported on the following organs: blood (haemolysis) and secondary effects on the kidney and liver. Human red blood cells have been shown to be significantly less sensitive to haemolysis than those of rodents and rabbits.

**Aspiration** Based on physical properties, not likely to be an aspiration hazard.

## 12. Ecological Information

Acute Aquatic Toxicity	Not Applicable
Chronic Aquatic Toxicity	Not Applicable

### Ecological Information for Ingredient 1

None specified.

### Ecological Information for Ingredient 2

**Ecotoxicity** The hazard of the substance for the environment is caused by the hydroxyl ion (pH effect). For this reason the effect of the substance on the organisms depends on the buffer capacity of the aquatic or terrestrial ecosystem. The high water solubility and low vapour pressure indicate that the substance will be found predominantly in water. Also the variation in acute toxicity for aquatic organisms can be explained for a significant extent by the variation in buffer capacity of the test medium. LC50 values ranged between 33 and 189 mg/l.

Acute toxicity to fish: LC50 (lethal concentration, 50%): All available tests resulted in a range of toxicity values between 35 to 189 mg/l. However, in the majority of these test reports there were no data on pH variation.

Chronic toxicity to fish: NOEC (no observed effect concentration): It is not required to conduct this study since the substance dissociates in water and the only possible effect would result from the pH effect. However, pH will remain within environmentally expected ranges.

Acute toxicity to crustaceans: EC50 (effect concentration, 50%): Species: Ceriodaphnia. 40.4 mg/l (48 h; based on immobility). (Warne et al., 1999)

Chronic toxicity to crustaceans: NOEC (no observed effect concentration): it is not required to conduct this study since the substance dissociates in water and the only possible effect would result from the pH effect. However, pH will remain within environmentally expected ranges.

Toxicity data on soil micro- and macro-organisms and other environmentally relevant organisms, such as birds, bees and plants: If emitted to soil, sorption to soil particles will be negligible. Depending on the buffer capacity of the soil, OH<sup>-</sup> will be neutralised in the soil pore water or the pH may increase. There is no direct exposure of soil to NaOH based on the available uses. In addition, no indirect exposure via air is expected as it rapidly neutralizes in air.

**Persistence/Degradability** Readily biodegradable Other relevant information Abiotic degradation: NaOH is a strong alkaline substance that dissociates completely in water to Na<sup>+</sup> and OH<sup>-</sup>. High water solubility and low vapour pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly neutralized by carbon dioxide and the salts will be washed out by rain.

**Mobility** High water solubility and mobility.

**Environmental Fate** Caustic soda may react violently with acids and water. Do not allow drainage into sewers, streams or storm conduits.

**Bioaccumulation Potential** Bioconcentration factor (BCF): experimental data: Considering its high water solubility, NaOH is not expected to bioconcentrate in organisms. In addition, sodium is a naturally-occurring element that is prevalent in the environment and to which organisms are exposed regularly, for which they have some capacity to regulate the concentration in

the organism. Partition coefficient: n-octanol/water (log Pow): Not applicable (inorganic substance).

**Environmental Impact** No Data Available

### **Ecological Information for Ingredient 3**

#### **Toxicity**

**Toxicity to bacteria:** EC50 >1000 mg/l. Exposure period: 48 hours. Source: Active sludge. Method: OECD 209.

Source: Hoechst study.

#### **Persistence and degradability**

Not applicable to inorganic compounds.

#### **Bio accumulative/ Bioconcentration potential**

No information available.

#### **Mobility in soil**

No data available.

#### **Other adverse effects**

Environmental fate: While the alkalinity of this material is readily reduced in natural waters, the resulting phosphate may persist indefinitely or incorporate into biological systems. Inorganic compounds in contact with the soil, subsurface or surface waters may be taken up by plants and utilized as essential nutrients. Phosphates may also form precipitates, usually in the form of calcium or magnesium. The resultant compounds are insoluble in water and become part of the soil or sediment.

### **Ecological Information for Ingredient 4**

**Toxicity**

Aquatic toxicity - fish: LC0 - Leuciscus idus (Golden orfe) - 2,400 mg/l - 48 h

Aquatic toxicity - crustacean: Not determined

Aquatic toxicity - algae: Not determined

**Persistence and degradability**

Not available.

**Bio accumulative potential**

Not determined.

**Mobility in soil**

Not determined.

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

**Other adverse effects**

No data available.

**Ecological Information for Ingredient 5**

**Ecotoxicity** Avoid contaminating waterways.

**Aquatic toxicity:** Toxic to aquatic organisms. May cause long term adverse effects in the aquatic environment.

48hr EC50 (Daphnia magna): 19 mg/L.

96hr LC50 (fish): 5.6 mg/L (Brachydanio rerio)

**Ecological Information for Ingredient 6****Toxicity**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

**Fish Acute & Prolonged Toxicity** LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 h: 1,474 mg/l

**Aquatic Invertebrate Acute Toxicity** EC50, Daphnia magna (Water flea), static test, 48 h, immobilization: 1,550 mg/l

**Aquatic Plant Toxicity** EbC50, Pseudokirchneriella subcapitata (green algae), static test, biomass growth inhibition, 74 h: 911 mg/l

**Toxicity to Micro-organisms** IC50; Bacteria: > 1,000 mg/l

**Fish Chronic Toxicity Value (ChV)** Danio rerio (zebra fish), semi-static test, 21 d, reproduction, NOEC: 100 mg/l

**Persistence and degradability**

Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material is ultimately biodegradable (reaches >70% mineralisation in OECD test(s) for inherent biodegradability).

**OECD Biodegradation Tests:**

**Biodegradation** 90.40%

**Exposure Time** 28 d

**Method** OECD 301B Test

**10 Day Window** pass

**Bioaccumulative potential**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow <3).

**Partition coefficient, n-octanol/water (log Pow):** 0.81 Measured

**Mobility in soil**

**Mobility in soil:** Potential for mobility in soil is high (Koc between 50 and 150).

**Partition coefficient, soil organic carbon/water (Koc):** 67 Estimated

**Henry's Law Constant (H):** 1.60E-06 atm\*m3/mole Measured

**Other adverse effects**

No information provided.

**Ecological Information for Ingredient 7**

None specified.

### 13. Disposal considerations

Dispose of in accordance with all local, state and federal regulations. All empty packaging should be disposed of in accordance with Local, State, and Federal Regulations or recycled/reconditioned at an approved facility.

### 14. Transport Information

Not considered as a 'Dangerous Good' by the Australian Code for transport of Dangerous Goods by Road and Rail, the International Maritime Dangerous Goods (IMDG) Code, or International Air Transport Association (IATA).

UN Number	Not applicable
Proper shipping name or Technical Name	
Transport hazard class	
Packing Group	
Environmental hazards for Transport Purposes	Not classified as having an acute aquatic toxicity.
UFAC Code	TANZ C5A9
Special Precautions for user	None specified
Additional Information	None specified
Hazchem or Emergency Action Code	2R

### 15. Regulatory Information

No information in this section.

**16. Other information**

Date of Preparation:

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