Material Safety Data Sheet

1. IDENTIFICATION OF MATERIAL AND SUPPLIER

PRODUCT NAME: COIL-SHINE RTU

Synonyms: None

Recommended Use: Coil Cleaner

Supplier: Minehan Agencies Pty Ltd

Address: 29 Camuglia Street GARBUTT Townsville Queensland Australia 4814

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E-mail: inquiry@minehanagencies.com.au

Emergency telephone number: 0408 777 800 (24Hrs Australia)

2. HAZARDS IDENTIFICATION

This product is classified as

Hazardous Substance according to criteria of the National Occupational Health and Safety Commission (NOHSC).

Dangerous Goods according to the Australian Dangerous Goods Code (ADG Code).

Approved Criteria Classification (Calculated).	**CORROSIVE R34, TOXIC R45, EXTREMELY FLAMMABLE R12** **Safety Phrases S1/2, S36/37/39**
SUSDP Classification	**Poison S5** (Sodium Hydroxide)
ADG Classification	**Class 2.1 (Flammable Aerosol)**
Un Number	**1950**

EMERGENCY OVERVIEW

COLOUR	White foam
PHYSICAL DESCRIPTION	Aerosol
ODOUR	Hydrocarbon
MAJOR HEALTH HAZARD	Causes burns, permeant eye damage Respiratory tract damage. May cause cancer. Extremely Flammable

POTENTIAL HEALTH EFFECTS

Inhalation: Short term exposure. Corrosive, irritation, nausea, vomiting, difficulty breathing, headache, drowsiness, symptoms of drunkenness, lung congestion. **Long term Exposure**. Possible lung and respiratory tract damage, may trigger pre-existing respiratory complaints. Long term exposure may cause cancer.

Skin Contact: Short term exposure. Burns, redness and irritation. **Long term exposure**. Permanent scaring. Prolonged exposure to a diluted form may cause irritation, redness and dermatitis.

Eye Contact: Short term exposure. Severe irritation, serious eye damage. **Long-term exposure**. Permanent damage to eyes including blindness.

Ingestion: **Short term exposure**. Burns to mouth, oesophagus and stomach. Headaches, nausea, and severe abdominal pain may result. **Long-term exposure**. Permanent Gastrointestinal damage.

Carcinogen Status

NOHSC	Carcinogen, Category 2
NTP	Unknown
IARC	Unknown

3. COMPOSITION / INFORMATION ON INGREDIENTS

CHEMICAL ENTITY	CAS No	PROPORTION W/W %
LPG	68476-85-7	>80%
Sodium Hydroxide	1310-73-2	1-5%
Potassium Hydroxide	1310-58-3	1-5%
Sodium Metasilicate pentahydrate	10213-79-3	1-5%
Ethyleneglycol monobutyl ether	111-76-2	>1%
Other ingredients determined not to be hazardous		to 100%

4. FIRST AID MEASURES

Poison Information Centres in each State capital city can provide additional assistance for Scheduled Poisons: Phone (Australia 13 1126).

Inhalation: Remove victim from exposure. Remove contaminated clothing and loosen remaining clothing. Perform artificial respiration if needed. Allow patient to assume most comfortable position and keep warm. Seek medical attention.

Skin Contact: Remove contaminated clothing. Wash contaminated skin for at least 15-20mins with of water, or until no evidence of the chemical remains (this product will feel slippery or soapy on the skin.). If swelling, redness, blistering, or irritation occurs seek medical advice. Wash clothing before re-use.

Eye Contact: Immediately irrigate with copious quantities of water for at least 15 minutes. Eyelids to be held open. If present, remove contact lenses. Seek medical attention. **Note to Physician**. Can cause corneal burns.

Ingestion: Immediately rinse mouth with water. Do NOT induce vomiting. Seek urgent medical attention.

Notes to Physician: Treat symptomatically. Suggest intubation BEFORE any emesis due to foaming properties of this product.

5. FIRE FIGHTING MEASURES

Flash Point: >65^{o}C without propellant

Fire and Explosion Hazard: Flammable Compressed Gas. Vapour may form explosive mixtures with air. Closed containers exposed to heat may violently explode.

Specific Hazards: Sealed containers may explode in a large fire.

Fire Fighting: Move containers from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. **Suitable Extinguishing Media:** Use foam, CO_2 or dry chemical powder to extinguish surrounding fire.

Hazardous Decomposition in Products: On burning may emit fumes including carbon monoxide, carbon dioxide, and partially burned hydrocarbons. Fire fighters to wear self-contained breathing apparatus if risk of exposure to vapour or products of combustion.

Hazchem Code: 3WE

6. ACCIDENTAL RELEASE MEASURES

Flammable Compressed Gas. Remove all ignition sources. Stop leak if possible without personal risk. Wear protective equipment to prevent personal injury (see section 8). **Small leak (1-2Cans)** Remove all ignition sources. Cover with an absorbent material (soil, sand or other inert material). Collect and seal in properly labelled containers for disposal. Hose down area with large amounts of dilute detergent. Caution, Slip Hazard. **Large leak (>2cans) Remove all ignition sources. Consider evacuation of area.** Prevent run off into drains and waterways. Dam material. Cover with foam to prevent ignition then apply absorbent material. Collect and seal in properly labelled containers for disposal. Hose down area with large amounts of dilute detergent. Keep unnecessary people away, isolate hazard area and deny entry. If contamination of sewers or waterways has occurred, advise local emergency services.

7. HANDLING AND STORAGE

Store in a well-ventilated area. Store in a cool, dry place and out of direct sunlight. Store away from foodstuffs and strong acids. Store in original containers. Do not store in aluminium containers. Keep containers closed when not in use – check regularly for leaks. This material is a Scheduled Poison S5 and a Class 2.1 Compressed Flammable Gas and must be stored, maintained and used in accordance with the relevant regulations. Handle using good industrial hygiene practices (see section 8 on personal protection).

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limits: No value has been assigned for this specific material by NOHSC. However exposure limits for ingredients are shown below

Ingredient	TWA	STEL	Notices
Sodium Hydroxide	2ppm	5ppm	
Potassium Hydroxide	2 ppm	5ppm	
Ehtyleneglycol monbutyl ether	20ppm	50ppm	Sk
LPG	1000ppm	-----	

TWA – the Time-Weighted Average airborne concentrations over an eight hour working day, for a five day week over an entire working life.

STEL (Short Term Exposure Limit) – the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight hour work day. According to current knowledge, these concentrations should neither impair the health of, nor cause undue discomfort to, nearly all workers.

Sk Notice – absorption through the skin may be a significant source of exposure. The exposure standard is invalidated if such contact should occur.

Sen Notice-Sensitiser. The substance can cause a specific immune response in some people. An affected individual may subsequently react to minute levels of that substance.

These exposure standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. Exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Biological Limit Value: No biological limit allocated.

Engineering Controls: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards and prevent exposure to vapours, mists and fumes. Use in well ventilated area. Keep containers closed when not in use.

Personal Protection Equipment
Respirator Type (AS 1716): If inhalation risk exists, wear organic vapour respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716.

Eye Protection: Safety glasses with side shields or goggles should be worn as described in Australian Standard AS/NZS 1337 – Eye Protectors for Industrial Applications.

Glove Type: Impervious PVC or rubber gloves should be worn.

Clothing: Suitable protective clothing should be worn eg: cotton overalls buttoned at neck and wrist.

Work/Hygienic Practices: Avoid skin and eye contact. Always wash hands before smoking, eating, drinking or using the toilet.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Aerosol	Water Solubility	Soluble
Colour	White Foam	Vapour Pressure	760 mmHg
Odour	Hydrocarbon	Vapour Density	1 (air =1)
Boiling Point	Unknown	Evaporation Rate	Same as butyl acetate
Melting Point	Unknown	% Volatiles	80%
Freezing Point	Unknown	Flash Point	>65 ^{o}C without propellant
Specific Gravity	1.10g/ml (water =1)	Flammability Limits	--
Ph (neat)	>13	Ignition Temperature	--

10. STABILITY AND REACTIVITY

Reactivity: Stable at normal temperatures and pressure.

Conditions to Avoid: Temperature above 48^{o}C..
Avoid contact with incompatible materials

Incompatibilities: Strong Oxidising Agents, Strong Acids, Light Metals (Al, Sn, Pb, Zn)

Explosive reactions may occur with strong oxidising agents.
Violent heat producing reactions may occur with strong acids.
An explosive, flammable gas (Hydrogen gas) is produced when in contact with light metals.

Hazardous Decomposition: Thermal decomposition products include, sulphur dioxide, carbon dioxide, carbon monoxide, and Nitrous oxides.

Polymerisation: Will not polymerise.

11. TOXICOLOGICAL INFORMATION

Coilshine RTU

Local Effects: Corrosive & Toxic: Inhalation, skin, eyes, and ingestion.
Target Organs: Lungs, Blood, CNS, and Kidneys.

Classification of Hazardous Ingredients

Ingredients	R Phrases
Sodium Hydroxide	R35, R41 R20/21/22
Potassium Hydroxide	R35, R41 R20/21/22
Sodium Metasilicate Pentahydrate	R34, R37
Ethyleneglycol monbutyl ether	R20/21/22 R36/38
LPG	R45 R12

Individual Ingredient Information

Sodium Hydroxide

Irritation Data: Skin Human, Patch test, 0.2ml of 0.5% soln, irritating for 55% of volunteers. Eye Rabbit, 0.004-0.2% non-irritant, 0.4% mild, 1.2% corrosive.

Toxicity Data: Repeated dose; no valid studies available. However under normal safe handling conditions and use (ie non-irritating) Sodium Hydroxide is not expected to be systemically available in the body.

Local Effects: Causes severe burns to eyes and skin. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.

Acute Toxicity Level: Dependant on concentration and dose. Lethality has been reported for animals at doses 240-400mg/Kg. Fatal ingestion and fatal dermal exposure has been reported in humans. One person who ingested 10g of Sodium Hydroxide (equivalent to 45mls of Coil Shine) in water suffered transmural necrosis of the esophageus and stomach and died 3 days after admission to hospital. A 42-year-old female swallowed approximately 30mls of 16% Sodium Hydroxide solution (equivalent to 20mls Coil Shine), it resulted in a 9cm stricture of the esophageus which was treated by gastric antral patch esophagoplasty.

Target Organs: Eyes, skin, mucous membranes, respiratory system

Mutagenic Data: Both *in vitro* and *in vivo* genetic toxicity tests indicated no evidence for a mutagenic activity.

Reproduction Effects Data: It can be stated that the substance will neither reach the foetus nor reach the male and female reproductive organs, which shows that there is no risk for developmental toxicity and no risk for toxicity to reproduction

Ref: OECD SIDS Initial Assessment Report, Sodium Hydroxide, Paris, 26-28 March 2002.

Potassium Hydroxide

Irritation Data: Skin Human, 50mg/24hour severe. Skin Rabbit, 50mg/24hour severe. Eye Rabbit, 1mg/24hour moderate.

Toxicity Data: LD 50 oral rat 273mg/Kg

Local Effects: Causes severe burns to eyes and skin. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns.

Acute Toxicity Level: Very similar to data for sodium hydroxide (see above).

Target Organs: Eyes, skin, mucous membranes, respiratory system

Mutagenic Data: Cytogenetic analysis: hamster ovary 12mmol/L, rat (Ascites tumours 1800mg/Kg.

Reproduction Effects Data: It can be stated that the substance will neither reach the foetus nor reach the male and female reproductive organs, which shows that there is no risk for developmental toxicity and no risk for toxicity to reproduction

Sodium Metasilicate Pentahydrate

Irritation Data: 250mg/24H, skin human, severe; 250mg/24H, skin rabbit, severe; 250mg/24H, skin guinea pig, moderate.

Toxicity Data: LD50 oral rat, 1153mg/kg; LD50 oral mouse, 770mg/kg; LDLo oral dog 250mg/kg

Local Effects: Corrosive: inhalation, skin eye, ingestion

Acute Toxicity Level: Moderately Toxic by ingestion. Lowest published toxic dose, oral human, 1mg/kg (acute renal failure).

Target Organs: Eyes, Skin, and Respiratory System

Mutagenic Data: No information available

Reproduction Effects Data: TDLo oral rat male, 15mg/kg; TDLo subcutaneous rat male, 9766ug/kg.

Ethylene glycol monobutyl ether

Irritation Data: 500mg open skin-rabbit mild; 100mg eyes-rabbit severe; 100mg/24hr eyes-rabbit moderate.

Toxicity Data: The lethal oral dose of ethylene glycols in humans is approximately 1.4ml/kg, which would be equivalent to approximately 100ml of pure Ethyleneglycol monobutyl ether for a 70kg person. LD50 rat oral 1.48 g/kg. LD50 rabbit oral 0.32g/kg. LD50 rabbit dermal 400mg/Kg

Local Effects: Irritant: inhalation, skin, eyes.

Acute Toxicity Level: Toxic: inhalation, dermal absorption, ingestion.

Target Organs: Blood, Central Nervous System, Kidneys.

Mutagenic Data: A statically significant increase in mutations not generally observed in cell cultures at any concentration for a range of tests.

Reproduction Effects Data: May damage the developing foetus.
TCLo: ihl-rat 200ppm/6H (6-15D preg)
TCLo: ihl-rbt 200ppm/6H (6-18D preg)

LPG

Irritation Data: No known applicable information

Toxicity Data: No known applicable information

Local Effects: Irritant: inhalation, skin, eyes.

Acute Toxicity Level: Toxic by inhalation at concentrations well above TWA

Target Organs: Respiratory System, Central Nervous System.

Mutagenic Data: No known applicable information

Reproduction Effects Data: No known applicable information

12. ECOLOGICAL INFORMATION

General Statement: Do not allow large quantities (>20L) of this product to enter the waterways. Strong alkaline effect will be detrimental to aquatic life.

Ecotoxicity: The hazard of this product for the environment is due to the high SodiumHydroxide content (pH effect). The effect of Sodium Hydroxide on an organism depends on the buffer capacity of the aquatic or terrestrial ecosystem. LC50 values of acute toxicity tests with aquatic organisms ranged between 33 and 189 mg/L.

Persistence and Degradability: No specific information available for this product

Mobility: Very mobile in soil and very soluble in water. No transport to air

13. DISPOSAL CONSIDERATIONS

Refer to State/Territory Land Waste Management Authority for disposal, show this MSDS for their consideration. Empty containers not to be recycled or used for any other purpose. Dispose in accordance with local regulations.

14. TRANSPORTATION INFORMATION

UN No	1950
Proper Shipping Name	Compressed Flammable gas
ADG Code	Class 2.1
Sub Risk	Class 8
Packing Group	II
Special Precautions	None
Hazchem Code	2WE
EPG	2A1 & 8A1
Segregations	Yes

15. REGULATORY INFORMATION

SUSDP: Poison S5

AICS: All of the constituents of this material are listed on the ACIS.

16. OTHER INFORMATION

Issue Date: November 2007.
Reason(s) For Issue: Updated format to comply with NOHSC: 2011(2003).

Labelling Details
First line of Label must read: CAUTION FLAMMABLE GAS
Other statements to include

R34	Causes burns
R41	Risk of serious damage to eyes
R12	Extremely Flammable
R45	May cause Cancer
R20/21/22	Harmful by inhalation, in contact with skin, and if swallowed
S1/2	Keep locked up and out of reach of children.
S26	In case of contact with eye/s, do NOT rub eyes as this may scratch the cornea, rinse immediately with plenty of water and seek medical advice.
S36/37/39	Wear Suitable protective clothing, gloves and eye/face protection
S45	In case of accident or if you feel unwell, seek medical advice immediately (show the label wherever possible).

Abbreviations & Acronyms

SUSPD: Standard for the Uniform Scheduling of Drugs and Poisons
ADG: Australian Code for the Transport of Dangerous Goods by Road and rail
N.O.S. Not Otherwise Specified
CAS No: Chemical Abstracts Service Registry Number
UN No: United Nations Number
R-Phrases: Risk Phrases
S-Phrases: Safety Phrases
HAZCHEM Code: Hazardous Chemical emergency action code
NOHSC: National Occupational Health and Safety Commission
IARC: International Agency for Research into Cancer
ACIS: Australian Inventory of Chemical Substances
NTP: National Toxicology Program (USA)

Literary references:

Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(41999)]
National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011(2003)]
Exposure Standards for Atmospheric Contaminants in the Occupational Environment
Guidance Note [NOHSC: 3008(1995)] National Exposure Standards [NOHSC: 10005(1999)]
List of Designated Hazardous Substances [NOHSC: 10005(1999)]
Standard for the Uniform Scheduling of Drugs and Poison No. 17
The Australian Code for the Transport of Dangerous Goods by Road and Rail EDITION 6

Disclaimer

This MSDS summarises at the date of issue our best knowledge of the health and safety hazard information of the product and in particular how to safely handle and use the product in the workplace.

Since Minehan Agencies Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, review this MSDS in the context of how the user intends to handle and use the product in the workplace i.e. a risk analysis.

If clarification or further information is needed to ensure that an appropriate assessment can be made, the user should contact Minehan Agencies Pty Ltd.