

SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

| | |
|-------------------------|--|
| Trade Name | Norchem AC 641 |
| Product Synonyms: | Alkaline Cleaning Compound |
| Recommended Use: | Rig washing, general cleaning, High pressure and steam cleaning Tank cleaning |
| Company Identification: | Goldcrest International Singapore Pte Ltd 38 Tech Park Crescent Singapore 638098 |
| Emergency phone number: | (65) 6862 6006 Tel (65) 6863 3665 Fax |

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

PHYSICAL HAZARDS:

Corrosive to Metals - Category 1

HEALTH HAZARDS:

Acute Toxicity (Oral) Category 5

Skin corrosion: Category 1

Serious eye damage/eye irritation – Category 1

Specific Target Organ Toxicity (Single Exposure) - Category 2

ENVIRONMENT

Acute aquatic toxicant: Category 1

Chronic aquatic toxicant: Category 3

2.2 GHS Label elements, including precautionary statements

PICTOGRAM



SIGNAL WORD

Danger

PHYSICAL HAZARDS:

H290 May be corrosive to metals

HEALTH HAZARDS:

H303 May be harmful if swallowed

H314 Causes severe skin burns and eye damage

H318 Causes serious eye damage

H371 May cause damage to organs

ENVIRONMENTAL HAZARDS

H400 Very toxic to aquatic life

H412 Harmful to aquatic life with long lasting effects

Prevention

P234 Keep only in original packaging.

P260 Do not breathe dusts or mists. – if inhalable particles of dusts or mists may occur during use.

P264 Wash ...thoroughly after handling. ...

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P270 Do not eat, drink or smoke when using this product.

P273 Avoid release to the environment. – if this is not the intended use.

Response

P390 Absorb spillage to prevent material damage.

P312 Call a POISON CENTER/doctor/...if you feel unwell.

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water [or shower].

P363 Wash contaminated clothing before reuse.

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P310 Immediately call a POISON CENTER/doctor/...

P321 Specific treatment (see ... on this label) ... Reference to supplemental first aid instruction.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P311 IF exposed or concerned: Call a POISON CENTER/doctor/...

P391 Collect spillage.

Storage

P406 Store in a corrosion resistant/... container with a resistant inner P405 Store locked up.

Disposal

P501: Dispose of contents and container to appropriate waste site or reclaimer in accordance with local and national regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

| 3.1 Chemical Identity | 3.2 Common Name/Synonyms | 3.3 CAS No. | % Range |
|---|--------------------------|-------------|---------|
| Potassium Hydroxide | Caustic Potash | 1310-58-3 | < 5 % |
| Alcohol Ethoxylate | - | 68439-50-9 | < 5 % |
| Sodium metasilicate | - | 10213-79-3 | < 5 % |
| Diphosphoric acid, potassium salt (1:4) | - | 7320-34-5 | < 5 % |
| 1H-Imidazole1-ethanol, | - | 939-640-9 | < 5 % |
| Methanol | - | 67-56-1 | < 5 % |
| Ethoxylated alcohols phosphate ether | - | 68130-47-2 | < 5 % |
| Alcohols, C8-10, ethoxylated | - | 71060-57-6 | < 1 % |
| Orthophosphoric acid | - | 7664-38-2 | < 1 % |
| Ammonium Hydroxide | Ammonia solution | 1336-21-6 | < 1 % |
| Water | - | 7732-18-5 | Balance |

4. FIRST AID MEASURES

4.1 Description of first-aid measures

Symptoms of poisoning may occur even after several hours; therefore medical observation is suggested for at least 48 hours after the accident. Immediately remove any clothing soiled by the product.

General Advice

Eye Contact Rinse opened eye for several minutes under running water. Then consult a doctor.

Skin Contact Immediately flush with water for at least 15 minutes.

Inhalation Supply fresh air; consult doctor in case of complaints.

If swallowed Rinse out mouth and then drink plenty of water. Seek medical treatment.

4.2 Most important symptoms/effects, acute and delayed

No data available

4.3 Indication of immediate medical attention and special treatment needed

No data available

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Water spray, foam, dry chemical, or carbon dioxide

5.2 Specific hazards arising from the chemical

Sodium oxides, Silicon oxides, Phosphorus oxides, Potassium oxides, Carbon monoxide (CO) - these toxic gases may be released in case of fire,

5.3 Special protective actions for fire-fighters

Firefighters, and others exposed, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Avoid contact with skin & eyes. Use chemical resistance gloves, goggles to prevent direct contact with body tissues. Hazard identification Section for Significant Hazards. See Section 4 for First Aid Advice. Use personal protective clothing. Information regarding personal protective measures see, section 8. depending on the specific circumstances and/or the expert judgment of the emergency responders. For emergency responders: Respiratory protection: half-face or full-face respirator with filter(s) for vapours/aerosol. Small spills: chemical resistance apron is usually adequate. Large spills full body suit of chemical resistant is recommended.

6.2 Environmental precautions

Do not allow product to reach sewage system or the environment. Inform respective authorities in case of seepage into water course or sewage system. Do not allow to penetrate the ground/soil. Inform responsible authorities in case of seepage into the ground.

6.3 Methods and materials for containment and cleaning up

Recovery : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Sweep up or vacuum up spillage and collect in suitable container for disposal. Never return spills in original containers for re-use.

Decontamination/cleaning : Clean contaminated surface thoroughly. Wash non-recoverable remainder with large amounts of water. Recover the cleaning water for subsequent disposal. Decontaminate tools, equipment and personal protective equipment in a segregated area.

Neutralization : Absorb non-recoverable liquid with: Sand

Disposal : Dispose of in accordance with local regulations.

Additional advice : Material can create slippery conditions.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling and usage :

Handle in accordance with good industrial hygiene and safety practice. Avoid splashes. Avoid the formation or spread of mists in the atmosphere. Avoid inhalation, ingestion and contact with skin and eyes.

Hygiene measures :

Emergency equipment immediately accessible, with instructions for use. Ensure that eyewash stations and safety showers are close to the workstation location. Regular cleaning of equipment, work area and clothing. Use clean, well-maintained personal protection equipment. Store personal protection equipment in a clean location away from the work area. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Contaminated clothing must never be washed or reused. Wash hands before breaks and immediately after handling the product. When using do not eat, drink or smoke. The product must only be handled by specifically trained employees. Use clean, well-maintained personal protection equipment

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures for storage :

Take all necessary measures to avoid accidental discharge of products into drains and waterways due to the rupture of containers or transfer systems.

Storage conditions

Recommended : Protect from moisture. Keep in a well-ventilated place. Keep away from incompatible materials to be indicated by the manufacturer

Incompatible products : Strong acids Strong bases Strong oxidizing agents Strong reducing agents.

Packaging Measures

Packaging materials - Recommended : Plastic materials. To be avoided : Aluminium

Storage temperature : < 30 °C

7.3 Specific end use(s) no data available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

| Chemical Identity | TWA / PEL | STEL |
|---|---------------------------|---------------------------|
| Potassium Hydroxide | 2 mg/m ³ PEL | No Data Available |
| Alcohol Ethoxylate | No Data Available | No Data Available |
| Sodium metasilicate | No Data Available | No Data Available |
| Diphosphoric acid, potassium salt (1:4) | 8 mg/m ³ TWA | 16 mg/m ³ STEL |
| 1H-Imidazole1-ethanol, | No Data Available | No Data Available |
| Methanol | 260 mg/m ³ TWA | No Data Available |
| Ethoxylated alcohols phosphate ether | No Data Available | No Data Available |
| Alcohols, C8-10, ethoxylated | No Data Available | No Data Available |
| Orthophosphoric acid | 1 mg/m ³ TWA | 3 mg/m ³ STEL |
| Ammonium Hydroxide | 25 ppm TWA | 35 ppm STEL |

8.2 Appropriate engineering controls

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

8.3 Individual protection measures, such as personal protective equipment (PPE)

| | |
|-----------------|---|
| General | Keep away from foodstuffs, beverages and feed. Immediately remove all soiled and contaminated clothing. Do not inhale dust I smoke I mist. Vacuum clean contaminated clothing. Do not blow or brush off contamination. |
| Hand Protection | Wash hands before breaks and at the end of work. Wear Protective gloves (Check protective gloves for proper condition before use). To avoid skin problems reduce the wearing of gloves to the required minimum. Preventive skin protection by using skin-protecting agents is recommended. After use of gloves apply skin-cleaning agents and skin cosmetics. |
| Eye protection | Wear tightly sealed goggles & Avoid contact with the eyes. |
| Skin Protection | Wear protective work clothing & Avoid contact with the skin. Use skin protection cream for skin protection. |

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

PHYSICAL PROPERTIES

| | | |
|--|----------------|----------------|
| Appearance: | Physical State | Liquid |
| | Colour | Clear |
| Odour | | Soapy |
| Odour threshold; | | Not available |
| pH (100%) | | 13.5 ±0.5 |
| Melting Point: | | Not available |
| Boiling Point: | | 100°C |
| Flash point: | | Not available |
| Evaporation Rate: | | Not available |
| Flammability (solid, gas); | | Not applicable |
| Flammable Limits (Approximate volume % In air): LEL & UEL: | | Not available |
| Vapour Pressure: | | Not available |
| Vapour density: | | Not available |
| Specific Gravity | | 1.105 |
| Solubility In Water | | Very Soluble |
| Partition coefficient: n-octanol/water; | | Not available |
| Auto-ignition temperature: | | Not available |
| Decomposition Temperature: | | Not available |
| Viscosity | | Not available |

9.2 Other information

Not available

10. STABILITY AND REACTIVITY

| | |
|---------------------------------------|---|
| 10.1 Reactivity | No known reactivity hazard |
| 10.2 Chemical Stability | Stable under normal conditions. |
| 10.3 Hazardous Reaction | No known Hazardous Reaction or Polymerization |
| 10.4 Conditions To Avoid | Heat, open flames and high energy ignition sources. |
| 10.5 Incompatible Materials | Strong Acids, Strong Bases, Oxidisers, Strong Reducing agent |
| 10.6 Hazardous Decomposition Products | Under fire conditions: Potassium oxides, Sodium oxides, Silicon oxides, Phosphorus oxides, Carbon Monoxide; - can be released in case of fire, these can have a fire-promoting effect due to release of oxygen. |

11. TOXICOLOGICAL INFORMATION

11.1 Toxicological information

Ingredients

| | Potassium Hydroxide 1310-58-3 | Alcohol Ethoxylate 68439-50-9 | Sodium metasilicate 10213-79-3 | Diphosphoric acid, potassium salt (1:4) 7320-34-5 | 1H-Imidazole1-ethanol 939-640-9, Methanol 67-56-1 | Ethoxylated alcohols phosphate ether 68130-47-2, 71060-57-6, 7664-38-2 | Ammonium Hydroxide 1336-21-6 |
|----------------------|----------------------------------|----------------------------------|-----------------------------------|--|---|---|---------------------------------|
| Acute toxicity | Category 4 | Not classified | Category 4 | Category 4 | Not classified | Category 5 | Category 4 |
| Oral LD50 : mg/kg | rat 333 | Not Available | rat 847 | rabbit >1000 | rat >5000 | rat 3950 | rat 350 |
| Dermal LD50 mg/kg | Not Available | Not Available | Not Available | rabbit > 4640 | rabbit >5189 | Not Available | Not Available |
| Inhalation LC50 g/m3 | Not Available | Not Available | Not Available | Not Available | Not Available | Not Available | rat 2000 |

Mixture : AC 641

| | |
|-------------------------------------|--|
| Skin corrosion / irritation | Corrosion Category 1 |
| Serious eye damage / eye irritation | Serious eye damage/eye irritation – Category 1 |
| Sensitization | Dermal Not classified Inhalation Not classified |
| Germ cell mutagenicity; | Not classified |
| Carcinogenicity; | Not classified |
| Reproductive toxicity; | Not classified |
| STOT-single exposure; | Category 1 |
| STOT-repeated exposure; | Category 3 |
| Aspiration hazard | Not classified |
| Potential health effects | |
| Inhalation | May be harmful if inhaled. |
| Ingestion | Harmful if swallowed. Causes burns, May cause damage to organs |
| Skin | May be harmful if absorbed through skin. Causes severe skin burns. |
| Eyes | Causes serious eye damage |

12. ECOLOGICAL INFORMATION**12.1 Toxicity****Ingredients**

| | Potassium Hydroxide 1310-58-3 | Alcohol Ethoxylate 68439-50-9 | Sodium metasilicate 10213-79-3 | Diphosphoric acid, potassium salt (1:4) 7320-34-5 | 1H-Imidazole-1-ethanol 939-640-9, Methanol 67-56-1 | Ethoxylated alcohols phosphate ether 68130-47-2, 71060-57-6, 7664-38-2 | Ammonium Hydroxide 1336-21-6 |
|-----------------------------------|----------------------------------|----------------------------------|-----------------------------------|--|--|---|---------------------------------|
| Aquatic toxicity | | | | | | | |
| Acute | Not Classified | Category 1 | Not Classified | Not Classified | Not Classified | Category 2 | Category 1 |
| Chronic | Not Classified | Not Classified | Not Classified | Not Classified | Category 2 | Not Classified | Category 1 |
| Fish LC50 (h) mg/l | Gambusia affinis, 96 h 80 | no available data | no available data | no available data | Cyprinus carpio, 96 h 6.8 | Oncorhynchus mykiss, 96 h 5.5 | rainbow trout 24 h 0.008 |
| Crustacea LC50 (h) mg/l | no available data | no available data | no available data | no available data | no available data | no available data | no available data |
| Invertebrate EC50 (h) mg/l | no available data | no available data | no available data | no available data | Daphnia magna 48 h 234 | no available data | water flea 48 h 0.66 |

12.2 Persistence and degradability: Biodegradability

No data available

12.3 Bioaccumulative potential: Bioaccumulation

No data available

12.4 Mobility in soil: Distribution among environment compartments

No data available

12.5 Results of PBT and vPvB assessment

No data available

12.6 Other adverse effects: Additional ecological information

Do not allow to enter soil, waterways or waste water channels. Do not release untreated into natural waters.

13. DISPOSAL CONSIDERATION**13.1 Waste treatment methods****Product**

Offer surplus and non-recyclable solutions to a licensed disposal company.

If disposal is necessary, do not dispose into sewage. Consult local, state and federal regulations.

Contaminated packaging

be disposed of by approved facilities or licence waste collector. Observe all local and national regulations.

Empty containers should be taken for recycling, recovery, or disposal through suitably qualified or licensed contractor and in accordance with governmental regulations.

14. TRANSPORT INFORMATION

| | <i>ADR, RID, ADN</i> | <i>IMDG</i> | <i>IATA</i> |
|-----------------------------------|---|---|---|
| 14.1 UN number | UN 3266 | UN 3266 | UN 3266 |
| 14.2 UN proper shipping name | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. |
| | Contains: Potassium Hydroxide | Contains: Potassium Hydroxide | Contains: Potassium Hydroxide |
| 14.3 Transport hazard class(es) | 8 | 8 | 8 |
| 14.4 Packaging group | III | III | III |
| 14.5 Environmental hazards | Not Classified | Marine pollutant: yes | Not Classified |
| 14.6 Special precautions for user | | No Information | |

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.

No information available

Hazard Label



15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

Ingredients

| | Potassium Hydroxide 1310-58-3 | Alcohol Ethoxylate 68439-50-9 | Sodium metasilicate 10213-79-3 | Diphosphoric acid, potassium salt (1:4) 7320-34-5 | 1H-Imidazole1-ethanol 939-640-9, Methanol 67-56-1 | Ethoxylated alcohols phosphate ether 68130-47-2, 71060-57-6, 7664-38-2 | Ammonium Hydroxide 1336-21-6 |
|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|---|--|---|---------------------------------|
| Ingredients are on the inventory | | | | | | | |
| TSCA | No Info. | Yes | No Info. | Yes | No | Yes | No Info. |
| DSL | Yes | Yes | Yes | Yes | No | Yes | No Info. |
| EINECS | Yes | Yes | No Info. | Yes | No | Yes | No Info. |
| AICS | Yes | No Info. | Yes | Yes | No | Yes | No Info. |
| ISHL | Yes | No Info. | No | No Info. | No | Yes | No Info. |
| KECI | Yes | Yes | Yes | Yes | No | Yes | No Info. |
| IECSC | Yes | Yes | Yes | No Info. | No | Yes | No Info. |
| NZIoC: | Yes | No Info. | Yes | Yes | No | Yes | No Info. |
| PICCS | Yes | Yes | Yes | Yes | No | Yes | No Info. |
| NEA | Yes | No | No | No | No | No | Yes |

Mixture : AC 641

| | |
|----------------------|------------|
| Montreal Protocol | Not Listed |
| Stockholm Convention | Not Listed |
| Rotterdam Convention | Not Listed |

16. OTHER INFORMATION

Goldcrest International Pte. Ltd. provides the information contained herein in good faith, but makes no representation as to its comprehensiveness or accuracy. This document is intended only as a guide to the appropriate precautionary handling of the material by a properly trained person using this product. Goldcrest International warrants that this product is of merchantable quality. The implied warranty of fitness for a purpose or uses described on the product's label or in any written instructions or materials distributed to the buyer by Goldcrest International and is hereby disclaimed should buyer use the products in a manner inconsistent with this uses or purposes described therein. In no event shall Goldcrest International Pte. Ltd. be liable for any consequential, exemplary, or incidental damages incurred by buyer even if it has been advised of the possibility of such damages.

Key or legend to abbreviations and acronyms used in the safety data sheet

PEL = Permissible Exposure Level determined by the Occupational Safety and Health Administration (OSHA)

TWA = Time-Weighted Averages are based on 8h/day, 40h/week exposures OSHA

STEL = Short Term Exposure Limits are based on 15-minute exposures

| | |
|--------|---|
| TSCA | United States TSCA Inventory |
| DSL | Canadian Domestic Substances List |
| EINECS | European Inventory of Existing Commercial Chemical Substances |
| AICS | Australia Inventory of Chemical Substances |
| ISHL | Japan - Inventory of Chemical Substances |
| KECI | Korean Existing Chemicals Inventory |
| IECSC | Inventory of Existing Chemical Substances in China |
| NZIoC: | New Zealand. Inventory of Chemical Substances |
| PICCS | Philippines Inventory of Chemicals and Chemical Substances |
| NEA | Singapore - National Environment Agency |

Date Issued: 12 Nov 2015

This Safety Data Sheet was prepared in accordance to United Nations Globally Harmonized System of Classification and Labelling of Chemicals (GHS, 2013)

End of Safety Data Sheet