



'The Duke' Cleaner

Safety Data Sheet

Date: July 2021

SECTION 1 – CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product:

Product Name: The Duke
Other Names: Ducasol (The Duke)
Product Code: DMDUKE
HSNO Approval: HSR001575
Approval Description: Potassium hydroxide, >2-5% aqueous solution
UN Number: UN1814
Proper Shipping Name: Potassium Hydroxide Solution
DG Class: 8
Packing Group: III
Hazchem Code: 2R
Uses: All-purpose cleaner. Cleaning, degreasing auto parts.

Company Details:

Company: Sealco Limited
Address: Unit 5 / 18 Taurus place, Bromley, Christchurch
PO Box 35-190, Shirley, Christchurch
Telephone: 03 366 9495, 0508 292 837
Website: www.sealco.co.nz

Emergency Number: **National Poisons Centre**
0800 764 766

SECTION 2 – HAZARDS IDENTIFICATION

Approval:

This product has been approved under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR001575, Potassium hydroxide, >2-5% aqueous solution Group Standard 2017). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Minimum Degrees of Hazard) Notice 2017.

Classes:

6.1D (O)
8.2A
8.3A
6.8B

Hazard Statements:

H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H318 - Causes serious eye damage
H361 - Suspected of damaging fertility or the unborn child

Label Symbols

Signal Word: Danger

Precautionary Statements:

Prevention:

P102 - Keep out of reach of children.

P103 - Read label before use.

P260 - Do not breathe mist / vapours / spray.

P264 - Wash hands thoroughly after handling.

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

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

Response:

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/shower.

P321 - Specific treatment (see First Aid Measures on Safety Data Sheet).

P363 - Wash contaminated clothing before re-use.

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

P310 - Immediately call a POISON CENTER or doctor/physician.

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

Storage:

P405 - Store locked up.

P406 - Store in corrosive resistant container with a resistant inner liner.

Disposal:

P501 - Dispose of contents/container in accordance with local regulations.

Other hazards which do not result in classification (e.g. molten metal hazard)

This product is harmful to aquatic life. Avoid release to the environment.

SECTION 3 – INFORMATION ON INGREDIENTS

Substance: Mixture

Chemical Nature: Caustic Potash Solution

CAS / Identification	Component	Wt%
1310 - 58 - 3	Potassium Hydroxide	1 - 5
111- 76- 2	Glycol Ether EB	6 - 10
67 - 63 - 0	Isopropyl Alcohol 99%	2 - 4
7320 - 34 - 5	Tetrapotassium Pyrophosphate	2 – 4
139 -13 - 9	Nitrilotriacetic Acid	1 - 2

SECTION 4 – FIRST AID MEASURES

General Advice: In case of accident or if you feel unwell, seek medical advice immediately.

Eye Contact: Check for and remove contact lenses, if present and easy to do. Immediately flush eyes with gentle but large stream of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Call a poison center or doctor/physician immediately.

Skin Contact: Remove contaminated clothing and shoes immediately. Wash skin with plenty of water for at least 15 minutes. Wash clothing before reuse. Call a poison center or doctor/physician immediately.

Inhalation: Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. **WARNING!** It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled or ingested material is toxic, infectious, or corrosive. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a poison center or doctor/physician immediately.

Ingestion: Do not induce vomiting, unless directed to do so by medical personnel. Rinse mouth with water. If vomiting occurs, keep head low so that vomit does not enter lungs. Never give anything by mouth to an unconscious person. Call a poison center or doctor/physician immediately.

Most Important Symptoms and Effects, Both Acute and Delayed: Corrosive. Causes severe burns and tissue damage if swallowed, inhaled, or exposed to the skin or eyes.

Protection of First-aiders: First Aid responders should pay attention to self-protection and use the recommended personal protective equipment when the potential for exposure exists.

Note to Physician: Treat symptomatically and supportively.

SECTION 5 – FIRE FIGHTING MEASURES

Extinguishing Media:

Extinguishing Media Suitable Extinguishing Media

Not combustible, however, if material is involved in a fire use: Fine water spray, normal foam, dry agent (carbon dioxide, dry chemical powder).

Hazchem Code: 2R

Special Hazards Arising from the Chemical - Non-combustible material. Corrosive, Excessive thermal conditions may cause decomposition and yield potassium oxides. Contact with metals may yield hazardous hydrogen gas.

Hazardous Combustion Products - Carbon monoxide, Carbon dioxide, Potassium oxides, Oxides of phosphorus and nitrogen oxides (NOx).

Firefighting Measures

Special Protective Equipment and Precautions for Firefighters - Not combustible, however following evaporation of aqueous component residual material can decompose if involved in a fire, emitting toxic

fumes. Contact with metals may liberate hydrogen gas which is extremely flammable. Fire fighters to wear self-contained breathing apparatus and suitable protective clothing if risk of exposure to products of decomposition.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

For Non-emergency Personnel: Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Avoid breathing vapor or mist. Provide adequate ventilation.

For Emergency Responders: See Section 8 for proper protective equipment to be worn while cleaning an accidental spill.

Environmental Precautions: Prevent product from entering sewers, natural waterways, or confined spaces.

Methods and Materials for Containment and Cleanup:

Small Spill: Restrict access to area until completion of cleanup. Stop the flow if it can be done safely. For small spills, contain and collect with absorbent.

Large Spill: For larger spills, soak up spill with absorbent that does not react with product. Put contaminated material into the proper covered, labeled containers for disposal. Contaminated absorbent may pose the same hazards as the spilled product.

SECTION 7 – HANDLING & STORAGE

Precautions for Safe Handling

Protective Measures: See Section 8 for proper protective equipment to be worn. Avoid contact with eyes, skin, and clothing. Only use with adequate ventilation. Keep containers tightly closed while not in use.

Advice on General Occupational Hygiene: Avoid inhalation of vapor or mist. Do not swallow. Do not get in eyes. Avoid prolonged or repeated contact with skin. Handle in accordance with good industrial hygiene and safety.

Conditions for Safe Storage, Including Any Incompatibilities: Store in a dry, ventilated area. Store at 15-25 °C. Store away from heat and incompatible materials (see section 10). Store in original container. Do not store in metallic containers. Keep containers tightly closed and upright. Keep away from food, drink, and animal foodstuffs. Keep out of the reach of children. Comply with all national, state, and local codes pertaining to the storage, handling, dispensing, and disposal of this product.

Materials to Avoid: Do not store or handle near open flame, heat, or other sources of ignition.

SECTION 8 – EXPOSURE CONTROL & PERSONAL PROTECTION

NZ Workplace Exposure Standards

Ingredient	CAS	WES-TWA	WES-STEL
Potassium Hydroxide	1310 - 58 -3	Not available	Not available
Glycol Ether EB	111- 76- 2	25 ppm / 121 mg/m ³	Not available
Isopropyl Alcohol	67 - 63 - 0	400 ppm / 983 mg/m ³	500 ppm / 1230 mg/m ³

Tetrapotassium Pyrophosphate	7320 - 34 - 5	Not available	Not available
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*These workplace exposure standards are also Prescribed Exposure Standards (PES) under the Health & Safety at Work (General Risk and Workplace Management) Regulations 2016.

Appropriate Engineering Controls:

Ensure adequate ventilation. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Environmental Exposure: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual Protection Measures:

Hygiene Measures: Wash hands, forearms, and face thoroughly after handling the product, before eating, smoking, and using the lavatory and at the end of working period.

Personal Protective Equipment:



Skin Protection: Wear appropriate chemical resistant clothing (with long sleeves) and appropriate chemical resistant gloves.

Eye and Face Protection: Chemical splash-proof goggles, safety glasses with unperforated side shields. Make sure eyewash stations and safety showers are close to the workstation location.

Footwear: Chemical resistant boots or overshoes.

Respiratory Protection: An air-purifying, NIOSH-approved respirator with appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Use a positive-pressure, air-supplied respirator if there is any potential for an uncontrolled release, if exposure levels are unknown, or if any other circumstances exist where air-purifying respirators may not provide adequate protection.

Other: Eye wash station should be located near work area.

SECTION 9 – PHYSICAL & CHEMICAL PROPERTIES

Appearance	Blue Clear liquid	Physical State	Liquid
Odour	Alcohol	Colour	Blue
Odour Threshold	Not established	pH	13.0
Melting Point	Not applicable	Boiling Point	97°C
Explosive Properties	Not explosive	Evaporation Rate	Not established
Volatiles, Kinematic	Not determined	Flammability (solid, gas)	Not flammable
Auto-ignition	Not determined	Flash Point	Not applicable

Lower Explosive Limit	Not available	Decomposition Temp	Not applicable
Upper Explosive Limit	Not available	Vapor Pressure	Not established
Vapor Density	Not established	Specific Gravity (water=1)	0.99 g/cm ³
Water Solubility	Soluble	Partition coefficient:	Not determined
Viscosity	Not determined	Oxidizing Properties	Not classified as oxidizing

SECTION 10 – STABILITY & REACTIVITY

Reactivity	Not reactive.
Chemical Stability	Product is stable to normal heat, light.
Possibility of Hazardous Reactions	Can react with strong oxidizing agents.
Conditions to Avoid	To maintain product effectiveness, avoid excessive heat, open flames.
Incompatible Materials	Strong oxidizing agents
Hazardous decomposition products	Carbon monoxide, Carbon dioxide, Potassium oxide, Oxides of phosphorus, nitrogen oxides (NO _x)

SECTION 11 – TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure: Inhalation, Skin Contact, Ingestion, Eye Contact.

Acute Toxicity:

Product: Not classified based on available information.

Ingredients

Potassium Hydroxide:	LD50 Oral 273 mg/m ³ Oral
Glycol Ether EB:	LD50 1,414 mg/m ³ (guinea pig) LC50 > 3.1 mg/l , > 641 ppm (guinea pig) 1 h Dermal LD50 > 2,000 mg/kg (guinea pig)
Isopropyl Alcohol:	Oral LD50, 5,000 mg/kg (Rat) Dermal LD50, 12,800 mg/kg (Rabbit) Inhalation Gas LC50, 45,248 ppm (Rat)
Tetrapotassium Pyrophosphate:	Skin LD50, 4,640 mg/m ³ (Rabbit) Ingestion/Oral LD50, 1,000 mg/m ³ (Rabbit)
Nitrilotriacetic Acid:	Oral LD50, 1,100 mg/kg (Rat) Dermal LD50, > 5 mg/kg (Rabbit) Inhalation Gas LC50, > 5 mg/L (Rat)

Skin Corrosion / Irritation:

Product: Not classified based on available information.

Ingredients

Potassium Hydroxide: Category 1 A – Causes severe skin burns and eye damage.

Glycol Ether EB: Causes skin irritation.

Isopropyl Alcohol: Mild irritant to skin.

Tetrapotassium Pyrophosphate: Causes skin irritation. Irritation is likely to be more severe if the skin is moist or wet.

Serious Eye Damage/Eye Irritation:

Product: Not classified based on available information.

Ingredients:

Potassium Hydroxide: Category 1– Causes serious eye damage.

Glycol Ether EB: Causes serious eye irritation.

Isopropyl Alcohol: Moderate to severe eye irritation 24 hours 100 mg

Tetrapotassium Pyrophosphate: Causes eye irritation.

Respiratory or Skin Sensation: Negative

Germ Cell Mutagenicity: Not available

Carcinogenicity:

Ingredients:

Nitrilotriacetic Acid:

IARC (International Agency for Research on Cancer) has listed Group 2B (Possibly Carcinogenic to Humans) for Nitrilotriacetic Acid.

NTP (National Toxicity Program) has listed Nitrilotriacetic Acid as “Reasonably Anticipated” carcinogen.

Reproductive Toxicity: No known significant effects.

STOT- Single Exposure: Isopropyl Alcohol: Category 3 Narcotic Effects

STOT - Repeated Exposure: Not classified based on available information.

Repeated Dose Toxicity: Not classified based on available information.

Aspiration Toxicity: Not classified based on available information.

Potential Acute Health Effects:

Isopropyl Alcohol:

Eye Contact: Causes serious eye irritation.

Inhalation: Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness.

Skin Contact: Not known significant effects or critical hazards.

Ingestion: Can cause central nervous system (CNS) depression. Irritating to mouth, throat, and stomach.

Symptoms Related to the Physical, Chemical and Toxicological Characteristics:

Eye Contact: Adverse symptoms may include the following: Pain or irritation, watering, redness.

Inhalation: Adverse symptoms may include the following: Nausea or vomiting, headache, drowsiness / fatigue, dizziness / vertigo, unconsciousness.

Skin Contact: No specific data is available.

Ingestion: No specific data is available.

SECTION 12 – ECOLOGICAL INFORMATION

Ecotoxicity:

Ingredients:

Isopropyl Alcohol:

Acute LC50 1,400,000 to 1,950,000 µg/l marine water, 48 hours Cragnon

Acute LC50 4,200 mg/l Fresh water, 96 hours, fish rasbora heteromorpha Fish

Toxicity:

Ingredients

Potassium Hydroxide:

LC50 Western Mosquitofish (Gambusia affinis): 80 mg/m3, 96 h

Nitrilotriacetic Acid:

LC50 > 100 mg/l 96 h Freshwater EC50 > 100 mg/l 96 h Water Flea

Toxicity to Algae:

Ingredients

Nitrilotriacetic Acid:

EC50 > 100 mg/l 72 h Fresh Water Algae

Invertebrate Toxicity: No information

Persistence and degradability:

Nitrilotriacetic Acid: Soluble in water Persistence is unlikely based on information available.

Bioaccumulative Potential:

Biodegradation:

Ingredients

Potassium Hydroxide: Expected to be readily biodegradable.

Glycol Ether EB: 90.4% rapidly degradable. (After 28 days in a ready biodegradable test).

Isopropyl Alcohol: This ingredient has low potential for bioaccumulation. Log Pow 0.05

Mobility in Soil:

Glycol Ether EB: Not expected to hydrolyze readily.

Nitrilotriacetic Acid: Will likely be mobile in the environment due to water solubility.

Results of PBT and vPvB assessment half-life: No data available.

Other Adverse Effects: No data available

SECTION 13 – DISPOSAL CONSIDERATIONS

Disposal Method: Do not empty into drains; dispose of this material and its container in a safe way. To be disposed of as hazardous waste. Disposal should be in accordance with local, state, or national legislation.

SECTION 14 – TRANSPORT INFORMATION

Land Transport Rule: Hazardous Goods 2005 – NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

Shipping Name:	Potassium Hydroxide Solution
UN #	UN1814
Hazard Class:	8
Packing Group:	III
HAZCHEM Code	2R

Environmental Hazards: See Section 12. Ecological Information

Transport in Bulk, If Applicable: Not Applicable

Special Precautions:

Transport within user's premises: Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident and spillage.

SECTION 15 – REGULATORY INFORMATION

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR001574, Potassium hydroxide, >2-5% aqueous solution.

Specific Workplace Controls (as per HSNO approval referenced to Controls Matrix)

Key Workplace requirement are:

SDS	To be available in 10 minutes any workplace storing any quantity
Inventory	An inventory of all hazardous substances must be prepared and maintained
Packaging	All hazardous substances should be appropriately packaged, including substances that have been decanted, transferred or manufactured for own use or have been supplied
Labelling	Must comply with the Hazardous Substances (Labelling) Notice 2017
Emergency Plan	Required if > 1000L is stored
Certified Handler	Required if > not required is handled or stored
Tracking	Required to be tracked if > not required is present
Bundling & Secondary Containment	Required if > 1000L is stored
Signage	Required if > 250 L is stored in one location
Location Compliance Certificate	Required if > 100L (containers > 5L), 250 L (≤5L containers) 50L (in use) is stored in any one location
Flammable Zone	Must be established if > 100L (closed containers), 25L (decanting), 5L (open occasionally), 1L (in use) is stored in any one location
Fire Extinguisher	If > 250L is present

Section 16 – OTHER INFORMATION

Abbreviations:

CAS Number	Unique Chemical Abstracts Service Registry Number
Controls Matrix	List of default controls linking regulation numbers to Matrix code
EC50	Ecotoxic Concentration 50% - concentration in water which is fatal to 50% of a test population (eg. Daphnia, fish species)
EPA	Environmental Protection Authority
HAZCHEM Code	Emergency action code of numbers and letters that provide information to emergency services, especially firefighters
HSNO	Hazardous Substances and New Organisms (Act & Regulations)
LD50	Lethal Dose 50% - dose which is fatal to 50% of a test population (usually rats)
LC50	Lethal Concentration 50% - concentration in air which is fatal to 50% of a test population (usually rats)

MSDS (SDS)	Material Safety Data Sheet (Safety Data Sheet)
NZIoC	New Zealand Inventory of Chemicals
PES	Prescribes Exposure Standard means a WES or a biological exposure standard that is prescribed in a regulation, a safe work instrument or an approval under HSNO .
STEL	Short Term Exposure Limit – The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15-minute period, provided the TWA is not exceeded.
TWA	Time Weighted Average – generally referred to WES averaged over typical workday (usually 8 hours)
WES	Workplace Exposure Standard – The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours per day, 5 days per week) The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the workers breathing zone.

Review

Date	Reason for Review	Version
July 2021	Not applicable – New SDS	1

Disclaimer:

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