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SAFETY DATA SHEET

Product Code: KVCBZ50

SECTION 1 PRODUCT IDENTIFICATION

Product Name: KOVIT Comm Grade 2in1 Disinfectant Cleanser

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses: Disinfectant Cleaner.
Use according to manufacturer's directions.

SECTION 2 HAZARD IDENTIFICATION

Classification of the substance or mixture
HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

Poisons Schedule: Not Applicable

Classification: Eye Irritation Category 2A, Acute Aquatic Hazard Category 3

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label Elements

Hazard Pictogram(s):

Signal Word: Warning

Hazard Statement(s): H319 - Causes serious eye irritation.
H402 - Harmful to aquatic life.

Precautionary Statement(s) Prevention: P273 - Avoid release to the environment.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statement(s) Response: P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 - If eye irritation persists: Get medical advice/attention.

Precautionary Statement(s) Storage: Not Applicable

Precautionary Statement(s) Disposal: P501 - Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Substances
See section below for composition of Mixtures

Mixtures

CAS No.	%[weight]	Name
68131-39-5	1-3	alcohols C12-15 ethoxylated
67-63-0	1-3	isopropanol
63449-41-2	<1	benzalkonium chloride
Not Available	balance	Ingredients determined not to be hazardous
Not Available		includes
7732-18-5	>60	water

SECTION 4 FIRST AID MEASURES

Eye Contact:
If this product comes in contact with the eyes:
Wash out immediately with fresh 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. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

Skin Contact:
If skin contact occurs:
Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation:
If fumes, aerosols or combustion products are inhaled remove from contaminated area.
Other measures are usually unnecessary.

Ingestion:
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. Seek medical advice.

Indication of any Immediate Medical Attention and Special Treatment Needed:
Treat symptomatically.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media:
The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.
In such an event consider:
foam.
dry chemical powder.
carbon dioxide.

Special Hazards Arising from the Substrate or Mixture

Fire Incompatibility:
None known.

Advice for Firefighters

Fire Fighting:
Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves in the event of a fire.
Prevent, by any means available, spillage from entering drains or water courses.
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:

The material is not readily combustible under normal conditions.
However, it will break down under fire conditions and the organic component may burn.
Not considered to be a significant fire risk.
Heat may cause expansion or decomposition with violent rupture of containers.
Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).
May emit acrid smoke.
Decomposes on heating and produces toxic fumes of:
carbon dioxide (CO_2)
other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
May emit corrosive fumes.

HAZCHEM

Not Applicable

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures
See section 8

Environmental Precaution
See section 12

Methods and Material for Containment and Cleaning Up

Minor Spills

Clean up all spills immediately.
Avoid breathing vapours and contact with skin and eyes.
Control personal contact with the substance, by using protective equipment.
Contain and absorb spill with sand, earth, inert material or vermiculite.
Wipe up.
Place in a suitable, labelled container for waste disposal.

Major Spills

Moderate hazard.
Clear area of personnel and move upwind.
Alert Fire Brigade and tell them location and nature of hazard.
Wear breathing apparatus plus protective gloves.
Prevent, by any means available, spillage from entering drains or water course.
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 (see Section 13 for specific agent).
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.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 HANDLING AND STORAGE

Precautions for Safe Handling

Safe Handling:

DO NOT allow clothing wet with material to stay in contact with skin
Avoid all personal contact, including inhalation.
Wear protective clothing when risk of exposure occurs.
Use in a well-ventilated area.
Prevent concentration in hollows and sumps.
DO NOT enter confined spaces until atmosphere has been checked.
DO NOT allow material to contact humans, exposed food or food utensils.
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 storage and handling recommendations contained within this SDS.
Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.

Other Information:

Store in original containers.
Keep containers securely sealed.
No smoking, naked lights or ignition sources.
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.
Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable Container:

Polyethylene or polypropylene container.
Packing as recommended by manufacturer.
Check all containers are clearly labelled and free from leaks.

Storage Incompatibility:

Avoid reaction with oxidising agents, bases and strong reducing agents.
Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.

\+ x + o + + +

x — Must not be stored together
o — May be stored together with specific preventions
+ — May be stored together

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Occupational Exposure Limits (OEL)

Ingredient Data

Source	Ingredient	Material Name	TWA	STEL	Peak	Notes
Australia Exposure Standards	Isopropanol	Isopropyl Alcohol	400 ppm / 983 mg/m3	1230 mg/m3 / 500 ppm	Not Available	Not Available

Emergency Limits

Ingredient	Material Name	TEEL-1	TEEL-2	TEEL-3
Isopropanol	Isopropyl Alcohol	400 ppm	2000* ppm	12000** ppm
Benzalkonium Chloride	Quaternary ammonium compounds, benzyl-C12-C16-alkyldimethyl, chlorides	400 ppm	2000* ppm	12000** ppm

Ingredient	Original IDLH	Revised IDLH
Alcohols C12-15 Ethoxylated	Not Available	Not Available
Isopropanol	2,000 ppm	Not Available
Benzalkonium Chloride	Not Available	Not Available
Water	Not Available	Not Available

Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
Alcohols C12-15 Ethoxylated	E	≤ 0.1 ppm
Benzalkonium Chloride	C	> 0.1 to ≤ milligrams per cubic meter of air (mg/m³)
Notes:	*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*	

Exposure Controls

Appropriate Engineering Controls:

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.
Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee over-exposure.

General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of over-exposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. 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.

Personal Protection:

PPE Gloves PPE Suit PPE Shoes PPE Mask PPE Goggles

Eye and Face Protection:

Safety glasses with side shields.
Chemical goggles.
Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses 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], [AS/NZS 1336 or national equivalent].

Skin Protection: See hand protection below

Hands/Feet Protection:

Wear chemical protective gloves, e.g. PVC.
Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.
Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- Frequency and duration of contact
- Chemical resistance of glove material
- Glove thickness and dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended. It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.
Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.
Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body Protection: See other protection below

Other Protection: Overalls.
P.V.C apron.
Barrier cream.
Skin cleansing cream.
Eye wash unit.

Recommended Material(s)

Glove selection is based on a modified presentation of the:
"Forsberg Clothing Performance Index".
The effect(s) of the following substance(s) are taken into account in the *computer-generated selection:*
Ki-San

Material	CPI
NEOPRENE	A
BUTYL	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
VITON	C

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

Respiratory Protection

Type A-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	CPI Powered Air Respirator
up to 10 x ES	Air-line*	A-2 P2	A-PAPR-2 P2 ^
up to 20 x ES	-	A-3 P2	-
20+ x ES	-	Air-line**	-

* - Continuous-flow; ** - Continuous-flow or positive pressure demand
^ - Full-face
A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content. The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate. Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL/CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Appearance:	Clear liquid; mixes with water.		
Physical State:	Liquid	**Relative density (Water =1):**	Not Available
Odour:	Not Available	**Partition coefficient noctanol / water:**	Not Available
Odour Threshold:	Not Available	**Auto-ignition temperature (°C):**	Not Available
pH (as supplied):	Not Available	**Decomposition Temperature:**	Not Available
Melting point / freezing point (°C):	Not Available	**Viscosity (cSt):**	Not Available
Initial boiling point and boiling range (°C):	Not Available	**Molecular weight (g/mol):**	Not Applicable
Flash point (°C):	Not Available	**Taste**	Not Available
Evaporation rate:	Not Available	**Explosive properties:**	Not Available
Flammability:	Not Available	**Oxidising properties:**	Not Available
Upper Explosive Limit (%):	Not Available	**Surface Tension (dyn/cm or mN/m):**	Not Available
Lower Explosive Limit (%):	Not Available	**Volatile Component (%vol):**	Not Available
Vapour pressure (kPa):	Not Available	**Gas group:**	Not Available
Solubility in water:	Miscible	**pH as a solution (1%):**	Not Available
Vapour density (Air = 1):	Not Available	**VOC g/L:**	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity:	See section 7
Chemical Stability:	Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur
Possibility of Hazardous Reactions:	See section 7
Conditions to Avoid:	See section 7
Incompatible Materials:	See section 7
Hazardous Decomposition Products:	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Inhaled:	The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Not normally a hazard due to non-volatile nature of product
Ingestion:	Accidental ingestion of the material may be damaging to the health of the individual.

Skin Contact:

There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Open cuts, abraded or irritated skin should not be exposed to this material. 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.

Eye:

This material can cause eye irritation and damage in some persons.

Chronic:

Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility. Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the fetus, at levels which do not cause significant toxic effects to the mother. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

Ki-San:

TOXICITY	IRRITATION
Not Available	Not Available

Alcohols C12-15 Ethoxylated:

TOXICITY	IRRITATION
Dermal (rabbit) LD50: >2000 mg/kg[2]	Eye: no adverse effect observed (not irritating)[1]
Oral (rat) LD50: 1600 mg/kg[2]	Eye: SEVERE *
Oral (rat) LD50: 2000 mg/kg[2]	Skin: no adverse effect observed (not irritating)[1]
Oral (rat) LD50: 2500 mg/kg[2]	Skin: slight
Oral (rat) LD50: 3200 mg/kg[2]	

Isopropanol:

TOXICITY	IRRITATION
223 mg/kg[2]	Eye (rabbit): 10 mg - moderate
Inhalation (rat) LC50: 72.6 mg/l/4h[2]	Eye (rabbit): 100 mg - SEVERE
Oral (dog) LD50: =4828 mg/kg[2]	Eye (rabbit): 100mg/24hr-moderate
Oral (mouse) LD50: =4475 mg/kg[2]	Skin (rabbit): 500 mg - mild
Oral (mouse) LD50: 3600 mg/kg[2]	
Oral (rabbit) LD50: 6410 mg/kg[2]	
Oral (rat) LD50: =4396 mg/kg[2]	
Oral (rat) LD50: =5045 mg/kg[2]	
Oral (rat) LD50: =5338 mg/kg[2]	

Benzalkonium Chloride:

TOXICITY	IRRITATION
dermal (rat) LD50: 1420 mg/kg[2]	Not Available
Oral (mouse) LD50: 150 mg/kg[2]	
Oral (rat) LD50: 447 mg/kg[2]	

Water:

TOXICITY	IRRITATION
Oral (rat) LD50: >90000 mg/kg[2]	Not Available

Legend:

1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances*

Alcohols C12-15 Ethoxylated:

Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.
Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitisers. The oxidization products also cause irritation.
Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response.
No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact.
Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethyoxylates were applied to the skin and eyes of animals.
These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates.
Some of the oxidation products of this group of substances may have sensitizing properties.
As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact dermatitis (ACD) by patch testing.
Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.
Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. However, repeated exposure may cause dose dependent damage to the kidneys as well as reproductive and developmental defects.
The material may produce severe irritation to the eye causing pronounced inflammation.
Repeated or prolonged exposure to irritants may produce conjunctivitis.
for Tergitol 25-L-9: Neodol 25-9 Neodol 25-7 *Shell Canada ** Huntsman (for Teric 12A9)

Isopropanol:

Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled. Intentional swallowing is common particularly among alcoholics or suicide victims and also leads to fainting, breathing difficulty, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred.
Repeated doses may damage the kidneys. A decrease in the frequency of mating has been found in among animals, and newborns have been found to have a greater incidence of low birth weight. Tumours of the testes have been observed in the male rat.
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.
The substance is classified by IARC as Group 3:
NOT classifiable as to its carcinogenicity to humans.
Evidence of carcinogenicity may be inadequate or limited in animal testing.

Benzalkonium Chloride:

Alkyldimethylbenzylammonium chlorides are in the list of dangerous substances of council directive, classified as "harmful in contact with skin and on ingestion", and "corrosive and very toxic to aquatic organisms". It can cause dose dependent skin and eye irritation with possible deterioration of vision, possible sensitisation in those with pre-existing eczema. It does not cause cancer, genetic defect, foetal or developmental abnormality.

In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance.
Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. In addition, potential exposure of non-users of biocidal products (i.e. the general public) may occur indirectly via the environment, for example through drinking water, the food chain, as well as through atmospheric and residential exposure. Particular attention should be paid to the exposure of vulnerable sub-populations, such as the elderly, pregnant women, and children. Also pets and other domestic animals can be exposed indirectly following the application of biocidal products. Furthermore, exposure to biocides may vary in terms of route (inhalation, dermal contact, and ingestion) and pathway (food, drinking water, residential, occupational) of exposure, level, frequency and duration.
For acid mists, aerosols, vapours
Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there).

Water: No significant acute toxicological data identified in literature search.

Isopropanol & Benzalkonium Chloride: Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a nonallergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. 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. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.

Acute Toxicity:
Skin Irritation/Corrosion:
Serious Eye Damage/Irritation:
Respiratory or Skin Sensitisation:
Mutagenicity
Carcinogenicity:
Reproductivity:
STOT - Single Exposure:
STOT - Repeated Exposure:
Aspiration Hazard:

Legend: *– Data either not available or does not fill the criteria for classification*
– Data available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ki-San:

Endpoint	Test Duration (HR)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Alcohols C12-15 Ethoxylated:

Endpoint	Test Duration (HR)	Species	Value	Source
LC50	96	Fish	0.59mg/L	2
EC50	48	Crustacea	0.13mg/L	2
EC50	72	Algae or other aquatic plants	0.3mg/L	2
NOEC	48	Crustacea	0.056mg/L	2

Isopropanol:

Endpoint	Test Duration (HR)	Species	Value	Source
LC50	96	Fish	9-640mg/L	2
EC50	48	Crustacea	12500mg/L	5
EC50	72	Algae or other aquatic plants	>1000mg/L	1
EC0	24	Crustacea	5-102mg/L	2
NOEC	504	Crustacea	=30mg/L	1

Benzalkonium Chloride:

Endpoint	Test Duration (HR)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Water:

Endpoint	Test Duration (HR)	Species	Value	Source
Not Available	Not Available	Not Available	Not Available	Not Available

Legend: ***Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data***

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

Persistence and Degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
Water	LOW	LOW

Bioaccumulative Potential

Ingredient	Bioaccumulation
Isopropanol	LOW (LogKOW = 0.05)
Water	LOW (LogKOW = -1.38)

Mobility in Soil

Ingredient	Mobility
Isopropanol	HIGH (KOC = 1.06)
Water	LOW (KOC = 14.3)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Product/Packaging Disposal:

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws
operating in their area. In some areas, certain wastes must be tracked.
A Hierarchy of Controls seems to be common - the user should investigate:
Reduction
Reuse
Recycling
Disposal (if all else fails)
This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.
DO NOT allow wash water from cleaning or process equipment to enter drains.
It may be necessary to collect all wash water for treatment before disposal.
In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
Where in doubt contact the responsible authority.
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.
Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material). Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant: NO

HAZCHEM Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS
Transport in bulk according to Annex II of MARPOL and the IBC code
Not Applicable

SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

alcohols C12-15 ethoxylated is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

isopropanol is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
Australian Inventory of Industrial Chemicals (AIIC)

benzalkonium chloride is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
Australian Inventory of Industrial Chemicals (AIIC)

water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

ECHA SUMMARY

Ingredient	CAS number	Index No	ECHA Dossier
alcohols C12-15 ethoxylated	68131-39-5	Not Available	01-2119488720-33-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Skin Irrit. 2; Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; Dgr	H315
1	Eye Dam. 1; Aquatic Acute 1; Aquatic Chronic 3; Acute Tox. 4; Eye Irrit. 2	GHS09; GHS05; Dgr	H318; H400; H412; H302
1	Acute Tox. 4; Eye Dam. 1; Aquatic Chronic 3	GHS05; Dgr	H302; H318; H412
1	Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; Dgr	H318; H400
1	Acute Tox. 4; Eye Dam. 1; Aquatic Acute 1	GHS05; Dgr; GHS09	H302; H318; H400
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
Isopropanol	67-63-0	603-117-00-0	01-2119457558-25-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Flam. Liq. 2; Eye Irrit. 2; STOT SE 3	GHS02; GHS07; Dgr	H225; H319; H336
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
Benzalkonium Chloride	63449-41-2	612-140-00-5	01-2119965180-41-XXXX| 01-2119983287-23-XXXX

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Acute Tox. 4; Acute Tox. 4; Skin Corr. 1B; Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; Dgr	H302; H312; H314; H318; H400
1	Acute Tox. 3; Acute Tox. 3; Skin Corr. 1C; Eye Dam. 1; Aquatic Acute 1	GHS09; GHS05; GHS06; Dgr	H301; H331; H314; H318; H400
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

Ingredient	CAS number	Index No	ECHA Dossier
Water	7732-18-5	Not Available	Not Available

Harmonisation (C&L Inventory)	Hazard Class and Category Code(s)	Pictograms Signal Word Code(s)	Hazard Statement Code(s)
1	Not Classified	Not Available	Not Available
Harmonisation Code 1 = The most prevalent classification. Harmonisation Code 2 = The most severe classification.			

National Inventory Status

National Inventory	Status
Australia - AIIC	Yes
Australia Non-Industrial Use	No (alcohols C12-15 ethoxylated; isopropanol; benzyldimethyldecylammonium chloride; water)
Canada - DSL	Yes
Canada - NDSL	No (alcohols C12-15 ethoxylated; isopropanol; benzyldimethyldecylammonium chloride; water)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	No (alcohols C12-15 ethoxylated; benzyldimethyldecylammonium chloride)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes

Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
Legend:	*Yes = All CAS declared ingredients are on the inventory* *No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)*

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
Benzalkonium Chloride	63449-41-2, 1427499-24-8, 50957-62-5, 51004-71-8, 51668-62-3, 69344-71-4, 39403-41-3, 284043-23-8, 63449-42-3, 68424-85-1, 70294-44-9

Definitions and abbreviations

PC-TWA:	Permissible Concentration-Time Weighted Average
PC-STEL:	Permissible Concentration-Short Term Exposure Limit
IARC:	International Agency for Research on Cancer
ACGIH:	American Conference of Governmental Industrial Hygienists
STEL:	Short Term Exposure Limit
TEEL:	Temporary Emergency Exposure Limit
IDLH:	Immediately Dangerous to Life or Health Concentrations
OSF:	Odour Safety Factor
NOAEL:	No Observed Adverse Effect Level
LOAEL:	Lowest Observed Adverse Effect Level
TLV:	Threshold Limit Value
LOD:	Limit Of Detection
OTV:	Odour Threshold Value
BCF:	BioConcentration Factors
BEI:	Biological Exposure Index

Reason for Revision: To bring to date

END OF SDS