

Northfork Spray On Wipe Off

ACCO Brands Australia Pty Ltd

Version No: 1.3

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 23/04/2021

S.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Northfork Spray On Wipe Off			
Synonyms	Not Available			
Other means of identification	750ml - 631070400	2L - 631073800	5L - 631070700	15L - 631070800

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

Relevant identified uses	Surface Cleaner and Disinfectant
--------------------------	----------------------------------

Details of the supplier of the safety data sheet

Registered company name	ACCO Brands Australia Pty Ltd
Address	17-19 Waterloo Street, Queanbeyan 2620 NSW Australia
Telephone	+61-2-96740900
Fax	+61-2-96740910
Website	www.accobrand.com.au
Email	sds.anz@acco.com

Emergency telephone number

Association / Organisation	Poisons Information Line
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	13 11 26


SECTION 2 HAZARDS 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 ^[1]	Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Acute Aquatic Hazard Category 2
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

Label elements

GHS label elements	
--------------------	---

SIGNAL WORD	WARNING
-------------	----------------

Hazard statement(s)

H315	Causes skin irritation
H319	Causes serious eye irritation
H401	Toxic to aquatic life

Precautionary statement(s) Prevention

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P103	Read label before use.
P273	Avoid release to the environment.

Continued...

Spray On Wipe Off

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

Precautionary statement(s) Response

P362	Take off contaminated clothing and wash before reuse.
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.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P332+P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7732-18-5	87	<u>water</u>
111-76-2	<10	<u>ethylene glycol monobutyl ether</u>
8001-54-5	<10	<u>benzalkonium chloride</u>
68131-39-5	<10	<u>alcohols C12-15 ethoxylated</u>
64-17-5	<10	<u>ethanol</u>

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	<p>If this product comes in contact with eyes:</p> <ul style="list-style-type: none"> ▶ Wash out immediately with water. ▶ If irritation continues, seek medical attention. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.
Ingestion	<ul style="list-style-type: none"> ▶ Immediately give a glass of water. ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to ethylene glycol:

- ▶ Early treatment of ingestion is important. Ensure emesis is satisfactory.
- ▶ Test and correct for metabolic acidosis and hypocalcaemia.
- ▶ Apply sustained diuresis when possible with hypertonic mannitol.
- ▶ Evaluate renal status and begin haemodialysis if indicated. [I.L.O]
- ▶ Rapid absorption is an indication that emesis or lavage is effective only in the first few hours. Cathartics and charcoal are generally not effective.
- ▶ Correct acidosis, fluid/electrolyte balance and respiratory depression in the usual manner. Systemic acidosis (below 7.2) can be treated with intravenous sodium bicarbonate solution.
- ▶ Ethanol therapy prolongs the half-life of ethylene glycol and reduces the formation of toxic metabolites.
- ▶ Pyridoxine and thiamine are cofactors for ethylene glycol metabolism and should be given (50 to 100 mg respectively) intramuscularly, four times per day for 2 days.
- ▶ Magnesium is also a cofactor and should be replenished. The status of 4-methylpyrazole, in the treatment regime, is still uncertain. For clearance of the material and its metabolites, haemodialysis is much superior to peritoneal dialysis.

[Ellenhorn and Barceloux: Medical Toxicology]

It has been suggested that there is a need for establishing a new biological exposure limit before a workshift that is clearly below 100 mmol ethoxy-acetic acids per mole creatinine in morning urine of people occupationally exposed to ethylene glycol ethers. This arises from the finding that an increase in urinary stones may be associated with such exposures.

Laitinen J., et al: Occupational & Environmental Medicine 1996; 53, 595-600

SECTION 5 FIREFIGHTING 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.

Continued...

Spray On Wipe Off

Special hazards arising from the substrate or mixture

Fire Incompatibility	None known.
-----------------------------	-------------

Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ 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. <p>Decomposes on heating and produces toxic fumes of; carbon dioxide (CO₂) other pyrolysis products typical of burning organic material May emit poisonous fumes.</p>

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ 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	<p>Environmental hazard - contain spillage. Moderate hazard.</p> <ul style="list-style-type: none"> ▶ 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.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> ▶ 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.
Other information	

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Polyethylene or polypropylene container. ▶ Packing as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<p>Ethylene glycol monobutyl ether (2-butoxyethanol) and its acetate:</p> <ul style="list-style-type: none"> ▶ May form unstable peroxides in storage ▶ is incompatible with oxidisers, permanganates, peroxides, ammonium persulfate, bromine dioxide, nitrates, strong acids, sulfuric acid, nitric acid, perchloric acid <p>None known</p>

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
--------	------------	---------------	-----	------	------	-------

Continued...

Spray On Wipe Off

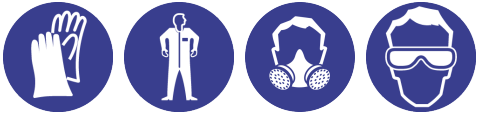
Australia Exposure Standards	ethylene glycol monobutyl ether	2-Butoxyethanol	96.9 mg/m ³ / 20 ppm	242 mg/m ³ / 50 ppm	Not Available	Sk
Australia Exposure Standards	ethanol	Ethyl alcohol	1880 mg/m ³ / 1000 ppm	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
ethylene glycol monobutyl ether	Butoxyethanol, 2-; (Glycol ether EB)	20 ppm	20 ppm	700 ppm
benzalkonium chloride	Alkyl dimethylbenzyl ammonium chloride; (Benzalkonium chloride)	4.7 mg/m ³	48 mg/m ³	48 mg/m ³
ethanol	Ethyl alcohol; (Ethanol)	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
water	Not Available	Not Available
ethylene glycol monobutyl ether	700 ppm	700 [Unch] ppm
benzalkonium chloride	Not Available	Not Available
alcohols C12-15 ethoxylated	Not Available	Not Available
ethanol	15,000 ppm	3,300 [LEL] ppm

Exposure controls

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>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.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions.</p>
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> ▶ 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	<p>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.</p> <p>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.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> ▶ frequency and duration of contact, ▶ chemical resistance of glove material, ▶ glove thickness and ▶ dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> ▶ 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. ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.
Thermal hazards	Not Available

Recommended material(s)

GLOVE SELECTION INDEX

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:

Spray On Wipe Off

Material	CPI

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.

Spray On Wipe Off

BUTYL	A
NEOPRENE	B
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
VITON	C

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 5 x ES	A-AUS / Class 1 P2	-	A-PAPR-AUS / Class 1 P2
up to 25 x ES	Air-line*	A-2 P2	A-PAPR-2 P2
up to 50 x ES	-	A-3 P2	-
50+ x ES	-	Air-line**	-

^ - 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)

* 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.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	A clear liquid		
Physical state	Liquid	Relative density (Water = 1)	0.98-1.02
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	6-8	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 Available
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 (g/L)	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	<ul style="list-style-type: none"> ▶ 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 adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, 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
----------------	---

Continued...

Spray On Wipe Off

Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. Severe acute exposure to ethylene glycol monobutyl ether, by ingestion, may cause kidney damage, haemoglobinuria, (blood in urine) and is potentially fatal.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Ethylene glycol monobutyl ether penetrates the skin easily and will cause more harm on skin contact than through inhalation. 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	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn). Ethylene glycol monobutyl ether may cause pain, redness and damage to the eyes.
Chronic	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment. Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.

Spray On Wipe Off	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Not Available	Not Available						
TOXICITY	IRRITATION										
Not Available	Not Available										
water	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Oral (rat) LD50: >90000 mg/kg^[2]</td> <td>Not Available</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Oral (rat) LD50: >90000 mg/kg ^[2]	Not Available						
TOXICITY	IRRITATION										
Oral (rat) LD50: >90000 mg/kg ^[2]	Not Available										
ethylene glycol monobutyl ether	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>dermal (rat) LD50: >2000 mg/kg^[1]</td> <td>* [Union Carbide]</td> </tr> <tr> <td>Inhalation (rat) LC50: 450 ppm/4h^[2]</td> <td>Eye (rabbit): 100 mg SEVERE</td> </tr> <tr> <td>Oral (rat) LD50: 250 mg/kg^[2]</td> <td>Eye (rabbit): 100 mg/24h-moderate</td> </tr> <tr> <td></td> <td>Skin (rabbit): 500 mg, open; mild</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	dermal (rat) LD50: >2000 mg/kg ^[1]	* [Union Carbide]	Inhalation (rat) LC50: 450 ppm/4h ^[2]	Eye (rabbit): 100 mg SEVERE	Oral (rat) LD50: 250 mg/kg ^[2]	Eye (rabbit): 100 mg/24h-moderate		Skin (rabbit): 500 mg, open; mild
TOXICITY	IRRITATION										
dermal (rat) LD50: >2000 mg/kg ^[1]	* [Union Carbide]										
Inhalation (rat) LC50: 450 ppm/4h ^[2]	Eye (rabbit): 100 mg SEVERE										
Oral (rat) LD50: 250 mg/kg ^[2]	Eye (rabbit): 100 mg/24h-moderate										
	Skin (rabbit): 500 mg, open; mild										
benzalkonium chloride	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Dermal (rabbit) LD50: 1560 mg/kg^[2]</td> <td>Eye (human): 0.05 mg SEVERE</td> </tr> <tr> <td>Oral (rat) LD50: 240 mg/kg^[2]</td> <td>Eye (rabbit): 1mg/24h SEVERE</td> </tr> <tr> <td></td> <td>Skin (human): 0.15 mg/72h mild</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: 1560 mg/kg ^[2]	Eye (human): 0.05 mg SEVERE	Oral (rat) LD50: 240 mg/kg ^[2]	Eye (rabbit): 1mg/24h SEVERE		Skin (human): 0.15 mg/72h mild		
TOXICITY	IRRITATION										
Dermal (rabbit) LD50: 1560 mg/kg ^[2]	Eye (human): 0.05 mg SEVERE										
Oral (rat) LD50: 240 mg/kg ^[2]	Eye (rabbit): 1mg/24h SEVERE										
	Skin (human): 0.15 mg/72h mild										
alcohols C12-15 ethoxylated	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Dermal (rabbit) LD50: >2000 mg/kg^[2]</td> <td>Eye: SEVERE *</td> </tr> <tr> <td>Oral (rat) LD50: 1600 mg/kg^{**[2]}</td> <td>Skin: slight</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: SEVERE *	Oral (rat) LD50: 1600 mg/kg ^{**[2]}	Skin: slight				
TOXICITY	IRRITATION										
Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Eye: SEVERE *										
Oral (rat) LD50: 1600 mg/kg ^{**[2]}	Skin: slight										
ethanol	<table border="1" style="width: 100%;"> <thead> <tr> <th style="width: 50%;">TOXICITY</th> <th style="width: 50%;">IRRITATION</th> </tr> </thead> <tbody> <tr> <td>Dermal (rabbit) LD50: 17100 mg/kg^[1]</td> <td>Eye (rabbit): 500 mg SEVERE</td> </tr> <tr> <td>Inhalation (rat) LC50: 64000 ppm/4h^[2]</td> <td>Eye (rabbit):100mg/24hr-moderate</td> </tr> <tr> <td>Oral (rat) LD50: >1187-2769 mg/kg^[1]</td> <td>Skin (rabbit):20 mg/24hr-moderate</td> </tr> <tr> <td></td> <td>Skin (rabbit):400 mg (open)-mild</td> </tr> </tbody> </table>	TOXICITY	IRRITATION	Dermal (rabbit) LD50: 17100 mg/kg ^[1]	Eye (rabbit): 500 mg SEVERE	Inhalation (rat) LC50: 64000 ppm/4h ^[2]	Eye (rabbit):100mg/24hr-moderate	Oral (rat) LD50: >1187-2769 mg/kg ^[1]	Skin (rabbit):20 mg/24hr-moderate		Skin (rabbit):400 mg (open)-mild
TOXICITY	IRRITATION										
Dermal (rabbit) LD50: 17100 mg/kg ^[1]	Eye (rabbit): 500 mg SEVERE										
Inhalation (rat) LC50: 64000 ppm/4h ^[2]	Eye (rabbit):100mg/24hr-moderate										
Oral (rat) LD50: >1187-2769 mg/kg ^[1]	Skin (rabbit):20 mg/24hr-moderate										
	Skin (rabbit):400 mg (open)-mild										
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										

ETHYLENE GLYCOL MONOBUTYL ETHER	<p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>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.</p> <p>For ethylene glycol monoalkyl ethers and their acetates (EGMAEs): Typical members of this category are ethylene glycol propylene ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE) and their acetates.</p> <p>EGMAEs are substrates for alcohol dehydrogenase isozyme ADH-3, which catalyzes the conversion of their terminal alcohols to aldehydes (which are transient metabolites). Further, rapid conversion of the aldehydes by aldehyde dehydrogenase produces alkoxyacetic acids, which are the predominant urinary metabolites of mono substituted glycol ethers.</p> <p>Acute Toxicity: Oral LD50 values in rats for all category members range from 739 (EGHE) to 3089 mg/kg bw (EGPE), with values increasing with decreasing molecular weight. Four to six hour acute inhalation toxicity studies were conducted for these chemicals in rats at the highest vapour concentrations practically achievable. Values range from LC0 > 85 ppm (508 mg/m3) for EGHE, LC50 > 400ppm (2620 mg/m3) for EGBEA to LC50 > 2132 ppm (9061 mg/m3) for EGPE. No lethality was observed for any of these materials under these conditions. Dermal LD50 values in rabbits range from 435 mg/kg bw (EGBE) to 1500 mg/kg bw (EGBEA).</p> <p>Exposure of pregnant rats to ethylene glycol monobutyl ether (2-butoxyethanol) at 100 ppm or rabbits at 200 ppm during organogenesis resulted in maternal toxicity and embryotoxicity including a decreased number of viable implantations per litter. Slight foetotoxicity in the form of poorly ossified or unossified skeletal elements was also apparent in rats. Teratogenic effects were not observed in other species.</p> <p>At least one researcher has stated that the reproductive effects were less than that of other monoalkyl ethers of ethylene glycol.</p>
--	---

Spray On Wipe Off

	<p>Chronic exposure may cause anaemia, macrocytosis, abnormally large red cells and abnormal red cell fragility. Exposure of male and female rats and mice for 14 weeks to 2 years produced a regenerative haemolytic anaemia and subsequent effects on the haemopoietic system in rats and mice. In addition, 2-butoxyethanol exposures caused increases in the incidence of neoplasms and nonneoplastic lesions (1). The occurrence of the anaemia was concentration-dependent and more pronounced in rats and females.</p> <p>For ethylene glycol:</p> <p>Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow. Following absorption, ethylene glycol is distributed throughout the body according to total body water. In most mammalian species, including humans, ethylene glycol is initially metabolised by alcohol dehydrogenase to form glycolaldehyde, which is rapidly converted to glycolic acid and glyoxal by aldehyde oxidase and aldehyde dehydrogenase. These metabolites are oxidised to glyoxylate; glyoxylate may be further metabolised to formic acid, oxalic acid, and glycine. Breakdown of both glycine and formic acid can generate CO₂, which is one of the major elimination products of ethylene glycol. In addition to exhaled CO₂, ethylene glycol is eliminated in the urine as both the parent compound and glycolic acid.</p> <p>NOTE: Changes in kidney, liver, spleen and lungs are observed in animals exposed to high concentrations of this substance by all routes. ** ASCC (NZ) SDS</p>
BENZALKONIUM CHLORIDE	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. 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.</p>
ALCOHOLS C12-15 ETHOXYLATED	<p>Human beings 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 ingestion, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that volumes well above a reasonable intake level would have to occur to produce any toxic response. Moreover, no fatal case of poisoning with alcohol ethoxylates has ever been reported. Multiple studies investigating the acute toxicity of alcohol ethoxylates have shown that the use of these compounds is of low concern in terms of oral and dermal toxicity.</p> <p>Clinical animal studies indicate these chemicals may produce gastrointestinal irritation such as ulcerations of the stomach, pilo-erection, diarrhea, and lethargy. Similarly, slight to severe irritation of the skin or eye was generated when undiluted alcohol ethoxylates were applied to the skin and eyes of rabbits and rats. The chemical shows no indication of being a genotoxin, carcinogen, or mutagen (HERA 2007).</p> <p>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.</p> <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>for Tergitol 25-L-9: Neodol 25-9 Neodol 25-7 *Shell Canada ** Huntsman (for Teric 12A9)</p>
ETHANOL	<p>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.</p>
Spray On Wipe Off & WATER	No significant acute toxicological data identified in literature search.

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

Legend: ✘ – Data available but does not fill the criteria for classification
✔ – Data required to make classification available
☐ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
water	EC50	384	Crustacea	199.179mg/L	3
water	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
water	LC50	96	Fish	897.520mg/L	3
ethylene glycol monobutyl ether	EC50	384	Crustacea	51.539mg/L	3
ethylene glycol monobutyl ether	LC50	96	Fish	222.042mg/L	3
ethylene glycol monobutyl ether	EC50	48	Crustacea	164mg/L	2
ethylene glycol monobutyl ether	NOEC	168	Crustacea	56mg/L	2
ethylene glycol monobutyl ether	EC50	96	Algae or other aquatic plants	720mg/L	2
benzalkonium chloride	EC50	24	Algae or other aquatic plants	0.0013mg/L	4
benzalkonium chloride	EC50	48	Crustacea	0.018mg/L	4
benzalkonium chloride	EC50	96	Algae or other aquatic plants	0.056mg/L	4
benzalkonium chloride	LC50	96	Fish	0.32mg/L	4

Continued...

Spray On Wipe Off

benzalkonium chloride	NOEC	1	Algae or other aquatic plants	0.0025mg/L	4
alcohols C12-15 ethoxylated	LC50	96	Fish	0.59mg/L	2
alcohols C12-15 ethoxylated	EC50	48	Crustacea	0.13mg/L	2
alcohols C12-15 ethoxylated	EC50	48	Crustacea	0.14mg/L	2
alcohols C12-15 ethoxylated	NOEC	48	Crustacea	0.056mg/L	2
alcohols C12-15 ethoxylated	EC50	72	Algae or other aquatic plants	0.3mg/L	2
ethanol	EC50	24	Algae or other aquatic plants	0.0129024mg/L	4
ethanol	EC50	48	Crustacea	2mg/L	4
ethanol	LC50	96	Fish	42mg/L	4
ethanol	NOEC	2016	Fish	0.000375mg/L	4
ethanol	EC50	72	Algae or other aquatic plants	275mg/L	2

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - 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

Harmful to aquatic organisms.

For Ethelene Glycol Monoalkyl Ethers and their Acetates:

log BCF: 0.463 to 0.732;

LC50 : 94 to > 5000 mg/L. (aquatic species).

Members of this category include ethylene glycol propyl ether (EGPE), ethylene glycol butyl ether (EGBE) and ethylene glycol hexyl ether (EGHE).

Environmental Fate: Aquatic Fate - The ethers possess no functional groups that are readily subject to hydrolysis in the presence of waters. The acetates possess an ester group that hydrolyses in neutral ambient water under abiotic conditions. Will partition predominately to water and, to a lesser extent, to air and soil. Soil - Highly mobile in soil.

Ecotoxicity: Ethelene glycol monoalkyl ethers and their acetates are readily biodegradable.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
water	LOW	LOW
ethylene glycol monobutyl ether	LOW (Half-life = 56 days)	LOW (Half-life = 1.37 days)
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
water	LOW (LogKOW = -1.38)
ethylene glycol monobutyl ether	LOW (BCF = 2.51)
ethanol	LOW (LogKOW = -0.31)

Mobility in soil

Ingredient	Mobility
water	LOW (KOC = 14.3)
ethylene glycol monobutyl ether	HIGH (KOC = 1)
ethanol	HIGH (KOC = 1)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

Product / Packaging disposal	<p>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.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>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.</p> <ul style="list-style-type: none"> ▶ 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 licenced to accept chemical and / or pharmaceutical wastes or incineration in a licenced apparatus (after admixture with suitable combustible material). ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.
-------------------------------------	--

SECTION 14 TRANSPORT INFORMATION

Spray On Wipe Off

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

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

ETHYLENE GLYCOL MONOBUTYL ETHER(111-76-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Substances Information System - Consolidated Lists	International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

BENZALKONIUM CHLORIDE(8001-54-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

ALCOHOLS C12-15 ETHOXYLATED(68131-39-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists	Australia Inventory of Chemical Substances (AICS)
--	---

ETHANOL(64-17-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards	Australia Inventory of Chemical Substances (AICS)
Australia Hazardous Substances Information System - Consolidated Lists	

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (ethanol; water; alcohols C12-15 ethoxylated; ethylene glycol monobutyl ether; benzalkonium chloride)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	N (benzalkonium chloride)
Japan - ENCS	N (water; alcohols C12-15 ethoxylated; benzalkonium chloride)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	N (benzalkonium chloride)
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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

Continued...

Spray On Wipe Off

OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

This document is copyright.

Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright Act, no part may be reproduced by any process without written permission from CHEMWATCH.

TEL (+61 3) 9572 4700.