

J&J MEDICAL MICROSIELD T TRICLOSAN SKIN CLEANSER

Chemwatch Independent Material Safety Data Sheet

Issue Date: 15-Jun-2010

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

J&J MEDICAL MICROSIELD T TRICLOSAN SKIN CLEANSER

SYNONYMS

"Antiseptic Wash Solution for Sensitive Skin, Manufacturer's Code: 60341, 60342, 60333, 60345"

PRODUCT USE

Hand and skin antiseptic for external use.

SUPPLIER

Company: Johnson & Johnson Medical Pty Ltd
Address:
PO Box 134
North Ryde
NSW, 2113
Australia

Company: Johnson & Johnson Medical Pty Ltd
Address:
1- 5 Khartoum Road
North Ryde
NSW, 2113
Australia
Telephone: +61 2 9878 9000
Telephone: 1800 257 210
Emergency Tel: 13 11 26
Emergency Tel: +64 3 474 7000 NZ
Fax: 1800 808 233

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

POISONS SCHEDULE

None

RISK

Risk Codes

R52/53

Risk Phrases

• Harmful to aquatic organisms may cause long- term adverse effects in the aquatic environment.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
propylene glycol	57-55-6	1-10
citric acid, ethanolamine salt		<10
2, 4, 4' - trichloro- 2' - hydroxydiphenyl ether	3380-34-5	<10
sodium cumene sulfonate	28348-53-0	<10
sodium lauryl ether sulfate	9004-82-4	<10
hydroxyethylcellulose	9004-62-0	<1
lanolin, ethoxylated	61790-81-6	<1
fragrance		<1
dye		<1
water	7732-18-5	>60

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Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

Section 4 - FIRST AID MEASURES

SWALLOWED

- For advice, contact a Poisons Information Centre or a doctor.
- 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.

EYE

- 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

- No adverse effects anticipated from normal use.
- If unintended skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
 - Seek medical attention in event of irritation.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Treat symptomatically.
- Emesis is contraindicated as the product may foam. Gastric lavage may be considered.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- There is no restriction on the type of extinguisher which may be used.
- Use extinguishing media suitable for surrounding area.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves for fire only.
- 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.

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Section 5 - FIRE FIGHTING MEASURES

FIRE/EXPLOSION HAZARD

- Non combustible.
 - Not considered to be a significant fire risk.
 - Expansion or decomposition on heating may lead to 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 (CO₂).

FIRE INCOMPATIBILITY

- None known.

HAZCHEM

None

PERSONAL PROTECTION

Glasses:

Not normally required.

Gloves:

1.NEOPRENE 2.VITON 3.BUTYL

Respirator:

Type A- P Filter of sufficient capacity

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Slippery when spilt.
- Clean up all spills immediately.
Wipe up.
Place in clean drum then flush area with water.

MAJOR SPILLS

- Slippery when spilt.
- Minor hazard.
- Clear area of personnel.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - Control personal contact by using protective equipment as required.
 - Prevent spillage from entering drains or water ways.
 - Contain spill with sand, earth or vermiculite.
 - Collect recoverable product into labelled containers for recycling.
 - Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
 - Wash area and prevent runoff into drains or waterways.
 - If contamination of drains or waterways occurs, advise emergency services.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Limit all unnecessary personal contact.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- When handling DO NOT eat, drink or smoke.
- Always wash hands with soap and water after handling.
- Avoid physical damage to containers.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.

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Section 7 - HANDLING AND STORAGE

SUITABLE CONTAINER

- Plastic container.

STORAGE INCOMPATIBILITY

- None known.

STORAGE REQUIREMENTS

- Keep cool. Store below 25 deg.C.
- Store in original containers.
- Keep containers securely sealed.
- 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 storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³
Australia Exposure Standards	propylene glycol (Propane- 1, 2-diol: particulates only)		10
Australia Exposure Standards	propylene glycol (Propane- 1, 2-diol total: (vapour & particulates))	150	474

The following materials had no OELs on our records

- 2, 4, 4' - trichloro- 2' - hydroxydiphenyl ether: CAS:3380- 34- 5
- sodium cumene sulfonate: CAS:28348- 53- 0 CAS:32073- 22- 6
- hydroxyethylcellulose: CAS:9004- 62- 0
- lanolin, ethoxylated: CAS:61790- 81- 6 CAS:8039- 09- 6
- water: CAS:7732- 18- 5

MATERIAL DATA

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

LANOLIN, ETHOXYLATED:

SODIUM CUMENE SULFONATE:

SODIUM LAURYL ETHER SULFATE:

• Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

• acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

LANOLIN, ETHOXYLATED:

SODIUM CUMENE SULFONATE:

• It is the goal of the ACGIH (and other Agencies) to recommend TLVs (or their equivalent) for all substances for which there is evidence of health effects at airborne concentrations encountered in the workplace.

At this time no TLV has been established, even though this material may produce adverse health effects (as evidenced in animal experiments or clinical experience). Airborne concentrations must be maintained as low as is practically possible and occupational exposure must be kept to a minimum.

NOTE: The ACGIH occupational exposure standard for Particles Not Otherwise Specified (P.N.O.S) does NOT apply.

J&J MEDICAL MICROSIELD T TRICLOSAN SKIN CLEANSER:

- None assigned. Refer to individual constituents.

PROPYLENE GLYCOL:

- for propylene glycol:

Saturated vapour concentration @ 20 deg C.= 65.8 ppm, 204.6 mg/m³; i.e higher concentrations can only occur as aerosols or at higher temperatures.

Odour Threshold: Practically odourless.

A small number of individuals show skin irritation or sensitisation from repeated or prolonged exposure to propylene glycol. A workplace environmental exposure limit (WEEL) has been established by AIHA and is thought to be protective against systemic effects.

WATER:

- No exposure limits set by NOHSC or ACGIH.

PERSONAL PROTECTION

EYE

- No special equipment for minor exposure i.e. when handling small quantities.

• OTHERWISE:

• Safety glasses with side shields.

• Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens 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].

HANDS/FEET

- None under normal operating conditions.

OTHER

- None under normal operating conditions.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

- None under normal operating conditions.

Provide adequate ventilation in warehouse or closed storage areas.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

Avoid production of aerosols.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Viscous clear blue-aqua fragrant liquid; mixes with water.

PHYSICAL PROPERTIES

Liquid.

Mixes with water.

State	Liquid	Molecular Weight	Not applicable
Melting Range (°C)	Not available	Viscosity	Not Available
Boiling Range (°C)	Not available	Solubility in water (g/L)	Miscible
Flash Point (°C)	Not applicable	pH (1% solution)	Not available
Decomposition Temp (°C)	Not available	pH (as supplied)	5.5
Autoignition Temp (°C)	Not available	Vapour Pressure (kPa)	Not available
Upper Explosive Limit (%)	Not applicable	Specific Gravity (water=1)	1.09
Lower Explosive Limit (%)	Not applicable	Relative Vapour Density (air=1)	Not available
Volatile Component (%vol)	Not available	Evaporation Rate	Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- Ingestion may result in nausea, abdominal irritation, pain and vomiting.

EYE

- The liquid may produce eye discomfort causing smarting, pain and redness.

SKIN

- Excessive use or prolonged contact may lead to defatting, drying and irritation of sensitive skin.
- Not considered an irritant through normal use.

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Section 11 - TOXICOLOGICAL INFORMATION

INHALED

- Not normally a hazard due to non-volatile nature of product.

CHRONIC HEALTH EFFECTS

- Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

TOXICITY AND IRRITATION

WATER:

HYDROXYETHYLCELLULOSE:

- No significant acute toxicological data identified in literature search.

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

SODIUM CUMENE SULFONATE:

SODIUM LAURYL ETHER SULFATE:

LANOLIN, ETHOXYLATED:

PROPYLENE GLYCOL:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

- Not available. Refer to individual constituents.

PROPYLENE GLYCOL:

TOXICITY

Oral (rat) LD50: 20000 mg/kg

Dermal (rabbit) LD50: 20800 mg/kg

Dermal (rabbit) LD50: 11890 mg/kg

IRRITATION

Skin(human):500 mg/7days Mild

Skin(human):104 mg/3d Intermit Moderate

Eye (rabbit): 100 mg - Mild

Eye (rabbit): 500 mg/24h - Mild

- 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.

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

TOXICITY

Oral (rat) LD50: 3700 mg/kg

Inhalation (rat) LC50: >140 mg/kg*

Dermal (rabbit) LD50: >6000 mg/kg*

- For triclosan:

Triclosan is readily absorbed in humans by the skin, through the oral mucous membranes (Lin 2000), through the gastrointestinal tract, and through mucosal tissues following intra-vaginal administration

Triclosan was excreted into the urine and faeces essentially unchanged with some evidence of conjugation.

Triclosan has been detected in the liver and fat.

In a 13-week dermal subchronic study of triclosan in rats signs of severe dermal irritation were seen in the treated groups, especially in the high-dose group. These signs were erythema, edema, desquamation, and eschar formation. Microscopically, hyperplasia of sebaceous glands, inflammation, and focal necrosis were seen on the skin of treated animals. The dermal effects were reversible during the recovery period. There were no systemic effects that could be treatment-related, although liver masses were observed in two treated animals.

Skin Sensitisation:

Subchronic dermal studies were conducted by applying 0.4 mL of a 2.5% or 5% suspension of triclosan in gum Arabic five times each week for four weeks to the shaved backs of male and female rats (5/sex) dermal irritation or systemic toxicity was reported.

Human Skin Irritation and Sensitisation:

Studies were conducted on the skin of human volunteers to determine the compatibility of dermal application of triclosan. The subjects were topically treated with 0.5% triclosan in 1% soap solution according to the Draize method. In the soap control, 0/50 subjects had sensitization or irritation, while 2/50 subjects receiving 0.5% triclosan had a very mild reaction. The conclusion was that triclosan was not a sensitiser or irritant.

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Section 11 - TOXICOLOGICAL INFORMATION

Reproductive/Developmental Toxicity:

Reproductive studies were cited in which a NOEL of 50 mg/kg/day was reported for the dams based on effects on the pups. A NOEL based on developmental outcomes was listed as 150-300 mg/kg/day ; however, no reproductive tract or fertility abnormalities were reported

Oral administration of triclosan to pregnant mice (gestation days 1-16) resulted in maternal and foetal toxicity at 50 and 100 mg/kg. The authors report no indications of teratogenesis in the mice, or in rats (50 and 100 mg/kg) or in rabbits (10, 25, 50, 100 mg/kg) following administration during gestation.

In a two-generational dose study conducted in rats at doses of 0, 300, 1000, and 3000 ppm in the diet (equivalent to 0, 15, 50, 150 mg/kg), toxicity was noted in the neonates from dams consuming the highest dose, and reductions in survival were seen in f1 and f2 populations with increased kidney dilations.

Triclosan has also been detected in human breast milk, and is probably associated with the fat due to its high lipophilicity

Cellular toxicity:

Triclosan has also been shown to inhibit cell growth in MCF-7 and SK Br-3 human breast cancer cell lines resulting in cellular apoptosis . The authors demonstrated that triclosan reversibly inhibited mammalian fatty acid synthesis (enzyme from SK Br-3 cells and goose uropygial gland). Triclosan was shown also to induce apoptosis in Smulow-Glickman human gingival epithelial cells in vitro

Genetic toxicity: The results of 18 mutagenicity tests were summarised, of which 13 were conducted by industry and not reported in the literature. Only one test indicated that triclosan was a mutagen (mammalian spot test), and a repeat of that study was negative.

Endocrine disruption: There have been several reports on endocrine disruptor activity of triclosan. In one study triclosan was weakly androgenic as evidenced by altered fin length and sex ratio in Japanese Medaka fish starting at age 2 days. Additional studies indicated that triclosan was toxic and had weak oestrogenic activity in Medaka . Oestrogen antagonism was induced in frogs following intraperitoneal administration of high doses of triclosan, while lower doses reduced testosterone in male frogs . Additional studies with frogs showed that triclosan bound to thyroid hormone receptor

In another study triclosan exhibited oestrogenic activity as evidenced by competitive binding with estradiol at the estrogen receptor and supported growth of the oestrogen-dependent MCF-7 cell line. The same study demonstrated triclosan bound to the rat androgen receptor, demonstrating androgenic activity.

Nomination Profile Supporting Information for Toxicological Evaluation by the National Toxicology Program July 2008.

Side-reactions during manufacture of the parent compound may result in the production of trace amounts of polyhalogenated aromatic hydrocarbon(s). Halogenated phenols, and especially their alkali salts, can condense above 300 deg. C. to form polyphenoxyphenols or, in a very specific reaction, to form dibenzo-p-dioxins. Polyhalogenated aromatic hydrocarbons (PHAHs) can cause effects on hormones and mimic thyroid hormone. Acne, discharge in the eye, eyelid swellings and visual disturbances may occur. Babies born to exposed mothers can also exhibit these effects. There is an increased risk of liver cancer among those who have taken PHAHs. 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.

[Van Waters & Rogers]* [Thompson Research] **

SODIUM CUMENE SULFONATE:

TOXICITY

Oral (Rat) LD50: 5200 mg/kg *

Dermal (Rat) LD50: >2000 mg/kg *

• Toxicological data are available and well documented for representative toluenesulfonates, xylenesulfonates and cumenesulfonates (including sodium, potassium, ammonium and calcium salts). These data demonstrate that hydrotropes have a low order of acute toxicity by all relevant routes (LC50s range from 100s to 1000s mg/kg), are not genotoxic in vitro or in vivo, show no evidence of a carcinogenic response (or any other systemic toxicity) in 2-year dermal exposure studies, and failed to induce developmental, teratogenic or fertility (sex organ) effects.

Adverse effects after repeated long term dosing of hydrotropes to animals included epidermal hyperplasia at the site of application in dermal studies, and decreased relative spleen weight in females in oral studies.

The critical adverse effect and corresponding systemic NOAEL is 763 mg a.i./kg bw based upon decreased relative spleen weight in female rats in a 90-day oral study. The NOAEL for local effects, based on epidermal hyperplasia at the site of application, was 440 mg a.i./kg bw for mice in 90-day dermal studies.

Hydrotropes can be classified as a negligible-to-slight irritant to skin and a slight-to-moderate irritant to eyes. The irritation potential of aqueous solutions of hydrotropes depends on concentration, and the

IRRITATION

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irritation is lessened with rinsing. Hydrotropes are not considered to be skin sensitisers.

HERA Report (Hydrotropes) September 2005.

* Nease Corporation MSDS

SODIUM LAURYL ETHER SULFATE:

TOXICITY

Oral (rat) LD50: 1600 mg/kg

Oral (Rat) LD50: >2000 mg/kg *

• The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

* [CESIO]

IRRITATION

Skin (rabbit):25 mg/24 hr Moderate

LANOLIN, ETHOXYLATED:

TOXICITY

Oral (rat) LD50: >21300 mg/kg *

• Alcohol ethoxylates are according to CESIO (2000) classified as Irritant or Harmful depending on the number of EO-units:

EO < 5 gives Irritant (Xi) with R38 (Irritating to skin) and R41 (Risk of serious damage to eyes)

EO > 5-15 gives Harmful (Xn) with R22 (Harmful if swallowed) - R38/41

EO > 15-20 gives Harmful (Xn) with R22-41

>20 EO is not classified (CESIO 2000)

Oxo-AE, C13 EO10 and C13 EO15, are Irritating (Xi) with R36/38 (Irritating to eyes and skin) (Hüls 1993).

AE are not included in Annex 1 of the list of dangerous substances of the Council Directive 67/548/EEC

IRRITATION

Skin (rabbit): non- irritating *

In general, alcohol ethoxylates (AE) are readily absorbed through the skin of guinea pigs and rats and through the gastrointestinal mucosa of rats. AE are quickly eliminated from the body through the urine, faeces, and expired air (CO₂). Orally dosed AE was absorbed rapidly and extensively in rats, and more than 75% of the dose was absorbed. When applied to the skin of humans, the doses were absorbed slowly and incompletely (50% absorbed in 72 hours). Half of the absorbed surfactant was excreted promptly in the urine and smaller amounts of AE appeared in the faeces and expired air (CO₂). The metabolism of C12 AE yields PEG, carboxylic acids, and CO₂ as metabolites. The LD₅₀ values after oral administration to rats range from about 1-15 g/kg body weight indicating a low to moderate acute toxicity.

The ability of nonionic surfactants to cause a swelling of the stratum corneum of guinea pig skin has been studied. The swelling mechanism of the skin involves a combination of ionic binding of the hydrophilic group as well as hydrophobic interactions of the alkyl chain with the substrate. One of the mechanisms of skin irritation caused by surfactants is considered to be denaturation of the proteins of skin. It has also been established that there is a connection between the potential of surfactants to denature protein in vitro and their effect on the skin. Nonionic surfactants do not carry any net charge and, therefore, they can only form hydrophobic bonds with proteins. For this reason, proteins are not deactivated by nonionic surfactants, and proteins with poor solubility are not solubilized by nonionic surfactants. A substantial amount of toxicological data and information in vivo and in vitro demonstrates that there is no evidence for alcohol ethoxylates (AEs) being genotoxic, mutagenic or carcinogenic. No adverse reproductive or developmental effects were observed. The majority of available toxicity studies revealed NOAELs in excess of 100 mg/kg bw/d but the lowest NOAEL for an individual AE was established to be 50 mg/kg bw/day. This value was subsequently considered as a conservative, representative value in the risk assessment of AE. The effects were restricted to changes in organ weights with no histopathological organ changes with the exception of liver hypertrophy (indicative of an adaptive response to metabolism rather than a toxic effect). It is noteworthy that there was practically no difference in the NOAEL in oral studies of 90-day or 2 years of duration in rats. A comparison of the aggregate consumer exposure and the systemic NOAEL (taking into account an oral absorption value of 75%) results in a Margin of Exposure of 5,800. Taking into account the conservatism in the exposure assessment and the assigned systemic NOAEL, this margin of exposure is considered more than adequate to account for the inherent uncertainty and variability of the hazard database and inter and intra-species extrapolations.

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Section 11 - TOXICOLOGICAL INFORMATION

AEs are not contact sensitizers. Neat AE are irritating to eyes and skin. The irritation potential of aqueous solutions of AEs depends on concentrations. Local dermal effects due to direct or indirect skin contact in certain use scenarios where the products are diluted are not of concern as AEs are not expected to be irritating to the skin at in-use concentrations. Potential irritation of the respiratory tract is not a concern given the very low levels of airborne AE generated as a consequence of spray cleaner aerosols or laundry powder detergent dust.

In summary, the human health risk assessment has demonstrated that the use of AE in household laundry and cleaning detergents is safe and does not cause concern with regard to consumer use.

* [Emery Chemical Co.]

Eye (rabbit): non-irritating *

Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

LANOLIN, ETHOXYLATED:

SODIUM LAURYL ETHER SULFATE:

• For surfactants:

Environmental fate:

Octanol/water partition coefficients cannot easily be determined for surfactants because one part of the molecule is hydrophilic and the other part is hydrophobic. Consequently they tend to accumulate at the interface and are not extracted into one or other of the liquid phases. As a result surfactants are expected to transfer slowly, for example, from water into the flesh of fish. During this process, readily biodegradable surfactants are expected to be metabolised rapidly during the process of bioaccumulation. This was emphasised by the OECD Expert Group stating that chemicals are not to be considered to show bioaccumulation potential if they are readily biodegradable.

Several anionic and nonionic surfactants have been investigated to evaluate their potential to bioconcentrate in fish. BCF values (BCF - bioconcentration factor) ranging from 1 to 350 were found. These are absolute maximum values, resulting from the radiolabelling technique used. In all these studies, substantial oxidative metabolism was found resulting in the highest radioactivity in the gall bladder. This indicates liver transformation of the parent compound and biliary excretion of the metabolised compounds, so that "real" bioconcentration is overstated. After correction it can be expected that "real" parent BCF values are one order of magnitude less than those indicated above, i.e. "real" BCF is <100. Therefore the usual data used for classification by EU directives to determine whether a substance is "Dangerous to the Environment" has little bearing on whether the use of the surfactant is environmentally acceptable.

Ecotoxicity:

Surfactant should be considered to be toxic (EC50 and LC50 values of < 10 mg/L) to aquatic species under conditions that allow contact of the chemicals with the organisms. The water solubility of the chemicals does not impact the toxicity except as it relates to the ability to conduct tests appropriately to obtain exposure of the test species. The acute aquatic toxicity generally is considered to be related to the effects of the surfactant properties on the organism and not to direct chemical toxicity.

PROPYLENE GLYCOL:

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

SODIUM CUMENE SULFONATE:

SODIUM LAURYL ETHER SULFATE:

J&J MEDICAL MICROSIELD T TRICLOSAN SKIN CLEANSER:

• DO NOT discharge into sewer or waterways.

PROPYLENE GLYCOL:

• log Kow (Prager 1995): - 0.92

• log Kow (Sangster 1997): - 0.92

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Section 12 - ECOLOGICAL INFORMATION

- log Pow (Verschuereen 1983): 4.7
- BOD5: 0.955 (2.2)
- BOD20: 1.225
- ThOD: 1.685

log Kow: -1.41- -0.3

Half-life (hr) air: 32

Henry's atm m³ /mol: 1.20E-08

BOD 5 if unstated: 0.995,2.2%

ThOD: 1.685

BCF: <1

Bioaccumulation: not sig

processes Abiotic: photoxid

2,4,4'-TRICHLORO-2'-HYDROXYDIPHENYL ETHER:

- On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.
- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 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.
- for 2,4,4'-trichloro-2'-hydroxydiphenyl ether (triclosan):

BOD 5: 0 mgO₂/g

COD: 1116 mgO₂/g

TOC: 50%

OECD biological degradation; <10% Oxygen consumption OECD 301C, 302C

Organo-halogen content: 36.7% chloro

Several studies indicate that degradation of triclosan by sunlight is important. Some triclosan is also likely to end up in river sediments. There are limited data to suggest that triclosan may be persistent in sediments. The toxicity of triclosan to sediment dwelling organisms is unknown.

A transformation product of triclosan, methyl triclosan, has been subject to a number of investigations. Methyl triclosan can be formed either during the sewage treatment process or in the natural environment. It is typically present at much lower concentrations than triclosan but it is potentially of concern as it is not broken down by sunlight and is therefore more stable than triclosan. It has also been found to bioaccumulate in fish. Presently there is very little data available on the toxicity of methyl triclosan, so its risk to aquatic life remains uncertain.

Other reported transformation products of triclosan which may be a concern for the environment include 2,8-dichlorodibenzo-p-dioxin, formed under laboratory conditions using light (photolysis). However the extent to which this takes place in the natural environment is unknown and therefore it is difficult to assess the environmental significance.

Biodegradation: Because of the antibacterial effect of triclosan, degradation tests according to OECD 301 ("ready degradability") are not relevant. Thus, data from MITI reporting 0% degradability at a concentration of 100 mg/ml is not valid. Ciba reports results from inherent tests demonstrating degradation, but the removal of triclosan in these studies may be a result of adsorption to sludge. So far, there are no available data to document ready degradability. Based on the insufficient data on degradation, a classification of "not readily biodegradable" by default is proposed.

Bioaccumulation: Triclosan has a log Kow of 4.76, which indicate a high potential for bioaccumulation (molecular weight < 700). Data from Ciba reports BCF-values of 4160 (3 ppb) and 2530 (30 ppb) on Zebra fish (OECD 305C) with 5 weeks exposure. Ciba reports 98% depuration within 2 weeks; most of the triclosan taken up by the fish during the exposure time was excreted.

In another study Another study BCF-values in the range of 3730-8400, at various pH-values, have been reported. This study is according to OECD 305, and valid as a study to document a high potential of bioaccumulation

Ecotoxicity:

The impact of triclosan on the aquatic environment depends on its aquatic toxicity and potential bioaccumulation and degradation properties. Work done at the Institute of Applied Environmental Research (ITM) in Sweden has shown that triclosan is bioavailable to fish in the aquatic environment downstream of municipal treatment works, and it has been found in human breast milk.

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The possible harmful effects of wide-ranging use of antibacterial substances like triclosan are not known well enough. Several studies have demonstrated the ability of bacterial strains to evolve resistance to triclosan and other antibiotics. Moreover, ecotoxicological studies demonstrate that triclosan is very toxic to aquatic organisms and has high potential for bioaccumulation.

Fish LC50 (96 h): 0.26 mg/l

Fish LC50 (96 h): zebra Fish LC50: 0.5 mg/l

Daphnia EC50 (48 h): 0.4 mg/l OECD 202

Daphnia magna L(E)C50 48 h): 0.39 mg/l

Algae EC50 (72 h): 0.2 mg/l 72h OECD 201

Algae L(E)C50 (72 h): *Scenedesmus sub.0.0014* mg/l; *Anabena flos-acuae* 0.000966 mg/l

C. dubia (crustacean) L(E)C50 (48 h): 0.13 mg/l

Toxicity to bacteria: 20 mg/l (3h) OECD 209

Test results from studies with fresh water algae reported to the US EPA for the notification of triclosan (US EPA report NTIS/OTS0573798), demonstrate L(E)C50 values of 0.966 ug/l and 4.46 ug/l.

The US EPA studies are performed according to standard methods of EPA and ASTM, except that the algae growth are not measured each day during the exposure period of 4 days, but only at the start and the end. The EC50 value is calculated from the cell density after 96 hours growth.

According to the evaluation of these studies by The Norwegian Institute for Water Research (NIVA), the ca 300x increased cell density of the control (growth rate 1.42d exp-1) within 96 h, indicate an exponential growth during most of the incubation period the Selenastrum study. Thus, the reported EC50 value (4.46 ug/l) corresponds to EbC50 as defined in the OECD Guideline 201. Although the exposure time of 96 hours in the study is longer than the recommended time of 72 hours in the OECD Guideline, the 72h EbC50 will probably not exceed a factor of 2 compared to the 96h EbC50. Based on raw data from the study, the 96h ErC50 (inhibition of growth rate) is calculated to 15.7 ug/l. The EfC50 do not depend on the exposure time like the EbC50. The evaluation of the Selenastrum study thus concludes that the study is valid to document EC50 << 1mg/l for algae.

- Most PCBs are volatile enough to cycle between the air, water, and soil at environmental temperatures, and that atmospheric transport is the most important mechanism for the global movement of PCBs.

PCBs are globally circulated and are present in all environmental media. Atmospheric transport is the most important mechanism for global dispersion of PCBs. Biphenyls with 0-1 chlorine atoms remain in the atmosphere, those with 1-4 chlorines gradually migrate toward polar latitudes in a series of volatilisation/deposition cycles, those with 4-8 chlorines remain in mid-latitudes, and those with 8-9 chlorines remain close to the source of contamination. PCBs enter the atmosphere from volatilisation from both soil and water surfaces. Once in the atmosphere, PCBs are present in both the vapor phase and sorbed to particles. PCBs in the vapor phase appear to be more mobile and transported further than particle-bound PCBs. Wet and dry deposition remove PCBs from the atmosphere. The dominant source of PCBs to surface waters is atmospheric deposition; however, redissolution of sediment-bound PCBs also accounts for water concentrations. PCBs in water are transported by diffusion and currents. PCBs are removed from the water column by sorption to suspended solids and sediments as well as from volatilisation from water surfaces. Higher chlorinated congeners are more likely to sorb, while lower chlorinated congeners are more likely to volatilize. PCBs also leave the water column by concentrating in biota. PCBs accumulate more in higher trophic levels through the consumption of contaminated food, a strong binding to soil. Volatilisation from soil appears to be an important loss mechanism; it is more important for the lower chlorinated congeners than for the higher chlorinated congeners. Vapor-phase PCBs accumulate in the aerial parts of terrestrial vegetation and food crops by vapor-to-plant transfer.

PCBs are strongly sorbed to soils as a result of low water solubility and high Kow, and will not leach extensively. The tendency to leach will be greatest among the least chlorinated congeners and is expected to be greatest in soil with low organic carbon. The mechanisms involved in the soil-to-air transfer of PCBs will involve a combination of direct soil organic matter-to-air transfer and soil pore water-to-air transfer.

Volatilisation rates are greatest in moist soils from the co-vaporisation of PCBs and water.

The ability of PCBs to be degraded or transformed in the environment depends on the degree of chlorination of the biphenyl molecule as well as on the isomeric substitution pattern. The vapor-phase reaction of PCBs with hydroxyl radicals is the dominant transformation process in the atmosphere, while photolysis appears to be the only viable abiotic degradation process in water. Biodegradation in the environment, although slow, occurs under both aerobic and anaerobic conditions. In sediments, aside from the aerobic surface layer, anaerobic microbial degradation will be primarily responsible for transformation, particularly of the more highly chlorinated congeners. Aerobic biodegradation in soil, surface water, and sediments is limited to the less chlorinated congeners.

In the atmosphere, the vapor-phase reaction of PCBs with hydroxyl radicals (photochemically formed by

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sunlight) is the dominant transformation process. The calculated tropospheric lifetime values for this reaction increases as the number of chlorine substitutions increases. The tropospheric lifetime values (determined using the calculated OH radical reaction rate constant and assuming an annual diurnally averaged OH radical concentration of 5×10^5 molecule/cm³) are: 5-11 days for monochlorobiphenyls, 8-17 days for dichlorobiphenyls, 14-30 days for trichlorobiphenyls, 25-60 days for tetrachlorobiphenyls, and 60-120 days for pentachlorobiphenyls.

Experiments with both pure and mixed microbial cultures show that some congeners of PCBs, usually containing from one to four chlorine substituents, are readily biodegraded aerobically although biodegradation of congeners containing up to six or seven chlorine atoms has been shown under enrichment conditions. The most common process for the aerobic degradation of PCBs by bacterial cultures proceeds in two distinct steps: first bioconversion to the corresponding chlorinated benzoic acid and secondly, mineralization of the chlorobenzoate to carbon dioxide and inorganic chlorides.

PCBs and other polyhalogenated polyaromatic hydrocarbons (including the dioxins and brominated species) are resistant to chemical and biological degradation and because of their solubility in fats and oils they tend to be bioconcentrated in living organisms. The highly chlorinated PCBs are retained in animals longer and seem to delay the excretion of the lower chlorinated PCBs. This is presumably true of other halogenated species and halogenated polyaromatic systems. They have become widely dispersed in the world environment and in the food-chain since their introduction. They are now recognised internationally to be a major environmental pollutant, their persistence causing ecological damage via water pollution. Consequently the loss of these materials to the environment is to be avoided at all costs.

PCBs are exceptionally persistent in the food chain, some even more so than the organochlorine insecticides with which they are often confused. In general the higher the degree of chlorination, the more resistant to degradation and more persistent environmentally they become.

Bioconcentration factors of PCBs in aquatic species such as fish, shrimp, and oysters range from 26000 to 60000. The health effects of PCBs are well established. These include interference with reproduction in wildlife and experimental animals and effects in birds and mammals including microsomal enzyme induction, porphyrogenic activity, tumour promotion, oestrogen activity and immunosuppression. Because of their high lipophilicity and their stability, the potential to bioaccumulate is great and long-term effects may be significant.

Environmental Limits:

PCB limit for Marine water = 0.004 ugm/litre equals 0.000004 mg/L.

Classification of waste materials contaminated by PCB's are:

PCB Materials: PCB content greater than 10%

Scheduled Wastes: PCB content greater than 0.005% = 50 mg/kg or 50 ppm.

Non Scheduled Wastes : PCB content greater than 0.0002% = 2 mg/kg or 2ppm.

PCB Free Wastes: PCB content less than 0.0002% = 2 mg/kg or 2 ppm.

[Polychlorinated Biphenyls Management Plan - Waste Management Secretariat]

Materials with more than 0.005% = 50 ppm. are Workplaces.

SODIUM CUMENE SULFONATE:

• For hydrotropes:

Based on their physical chemical properties, hydrotropes are predicted to partition almost exclusively in the water compartment.

Biodegradation: Hydrotropes are readily biodegradable in water under aerobic conditions according to OECD criteria. There is no known anaerobic biodegradation data on hydrotropes. Due to the presence of the sulfonated aromatic group, hydrotropes are not expected to biodegrade to a significant extent under anaerobic conditions. However, considering their ready aerobic biodegradability and their low potential for adsorption to sediment solids (log K_{ow}), the presence of hydrotropes in anaerobic environments is expected to be negligible.

Photolysis: No experimental data are available for photodegradation of hydrotropes. Photodegradation rates were estimated for the toluene, xylene and cumene sulfonates. The predicted atmospheric oxidation half lives were of the order of 40 to 105 hours, indicating a significant atmospheric degradation potential. As hydrotropes are not volatile, the importance of atmospheric photodegradation as an environmental fate mechanism is low.

Hydrolysis: No measured data are available for hydrolysis of hydrotropes. However, considering the fact that commercial products are available in aqueous solutions and these products are stable it can be expected that hydrolytic degradation is very low.

Removal: Removal of hydrotropes from secondary activated sludge sewage treatment has been calculated. Models predict a default 87% removal in wastewater treatment plants (assuming a log K_{ow} value of -2.7 and calculated

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Henry's Law constant of $4.90E-18 \text{ Pa}\cdot\text{m}^3\cdot\text{mol}^{-1}$). This output is conservative compared to the measured removal of >94% measured in a modified SCAS (OECD 302A) study with calcium xylene sulfonate. In addition, secondary literature data indicates up to 91.5% carbon removal in a Coupled Units study.

Aquatic acute toxicity: The hydrotropes demonstrate a low level of acute aquatic toxicity to fish, invertebrates, algae and bacteria exhibiting EC50 and LC50 values > 100 mg/l. Green algae are considered the most sensitive species with EC50 values of 230-236 mg/L active ingredient (a.i.) and No Observed Effect Concentrations (NOECs) of 31-75 mg a.i./L when tested with the sodium and calcium salts of xylene sulfonate, respectively. Xylene and cumene sulfonates (ammonium, calcium and sodium salts) had no acute toxicity towards fish and invertebrates at concentrations tested (>318 mg/L). However some sublethal effects were noted in two of the studies at the higher concentrations and included surfacing, loss of equilibrium, swimming on the bottom of the tank, dark discoloration, labored respiration and quiescence in some fish.

Terrestrial and sediment ecotoxicity: No terrestrial or sediment toxicity data are reported for hydrotropes. Given the low potential for hydrotropes reaching the terrestrial and sediment compartments (modelling results), the lack of persistence (ready biodegradability under aerobic conditions) or bioaccumulation (modelling results), and the low likelihood of these chemicals partitioning to soil and sediments the lack of ecotoxicity data is not considered a deficiency.

HERA Report (Hydrotropes) September 2005.

Ecotoxicological Data:

Following data is for NAXONATE7 45SC (45% aqueous solution of sodium cumenesulfonate).

Fish LC50 (96 h): Fathead minnow = > 1000 mg/l; 96-hour NOEC = 560 mg/l

Daphnia magna EC50 (48 h) = > 1000 mg/l; NOEC = > 1000 mg/l

Biodegradable

SODIUM LAURYL ETHER SULFATE:

• A large environmental data set is available for alcohol ethoxysulfates (AES). On the environmental fate side, this includes standard biodegradation studies, advanced simulation studies of removal in treatment systems, and field monitoring data. On the environmental effects side, acute as well as chronic single-species data are available, as well as advanced studies in micro- and mesocosm systems.

By means of these higher tier exposure and effects data, it could be shown that the use of AES in household detergents and cleaning products results in risk characterization ratios less than one, indicating no concern, for all environmental compartments.

The most frequent initial step in the biodegradation of AES is the cleavage of an ether bond. The cleavage may take place at any ether bond producing a fatty alcohol or an alcohol ethoxylate and ethylene glycol sulfates of various lengths. The length of the alkyl chain and the number of EO units apparently do not affect the degree of aerobic biodegradation, but branching of the alkyl chain may hinder the primary biodegradation of AES. AES are degraded readily and completely under aerobic conditions. E.g., for C12-14 AE3S, a rapid primary degradation of 90-100% is reported to take place within a period of 1 to 5 days. In activated sludge simulation tests 67-99% DOC was removed by degradation of C12-14 AE2S and C12-15 AE3S. The ultimate biodegradation of AES has been confirmed in OECD 301 tests for ready biodegradability. Based on at least one study, AES are not considered to bioconcentrate in aquatic organisms.

The chemical structure of AES highly influences the effect on aquatic organisms. The relations between alkyl chain length, number of EO groups and toxicity are complex and not yet resolved, but in general, changes in EO numbers affects toxicity more than changes in the alkyl chain length. In AES with alkyl chains of less than C16, the toxicity tended to decrease with increasing numbers of EO, but this was reversed for alkyl chain lengths above C16. The toxicity of AES thus seems to peak at alkyl chain lengths of C16. In a study of the acute toxicity of various AES (C8 to C19.6 and 1-3 EO) to bluegill sunfish (*Lepomis macrochirus*), the LC50 fell from > 250 mg/l for C8 and 375 mg/l for C10 to 24 mg/l for C13, 4-7 mg/l for C14, 2 mg/l for C15 and 0.3 mg/l for C16, and then increased to 10.8 mg/l for C17.9 and 17 mg/l for C19.6. Reported ranges for EC50 for the acute toxicity of AES to daphnids between 1 and 50 mg/l. However, an EC50 of 0.37 mg/l was observed in a 21-day reproduction test with *Daphnia magna*. The LC50 values for fish are in the range between 0.39 to 450 mg/l. A LOEC value of 0.22 mg/l has been reported for a chronic life cycle test with a duration of 1 year. The toxicity of AES towards fish seems to increase with increasing alkyl chain length for AES with up to 16 carbons.

Environmental and Health Assessment of Substances in Household Detergents and Cosmetic Detergent Products, Environment Project, 615, 2001. Torben Madsen et al: Miljøministeriet (Danish Environmental Protection Agency).

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LANOLIN, ETHOXYLATED:

- Alcohol (alkyl) ethoxylates (AEs) are generally biodegradable and do not persist for any substantial period in the environment. They are not usually present at concentrations which might produce problems. Contamination of natural waters, however, should be avoided.

The biodegradability of the alcohol ethoxylates (AE) is relatively unaffected by the alkyl carbon chain length and the number of EO units. The linear AE are normally easily degraded under aerobic conditions. Only small differences are seen in the time needed for ultimate degradation of linear AE with different alkyl chain lengths. AE with a typical alkyl chain (e.g., C12 to C15) will normally reach more than 60% degradation in standardized tests for "ready" biodegradability. The rate of biodegradation may however be determined by the length of the ethylene oxide (EO) chain. Longer EO chains decrease the bioavailability of the AE (to microorganism) due to increased hydrophilicity and molecular size, which limits the transport of the molecule through the cell wall. The biodegradation of branched AE tends to be slower than biodegradation of linear AE. The biodegradability of AE depends on degree and structure of the branching. The general trend is that the biodegradation decreases considerably with an increasing branching of the carbon chain. The biodegradability of alcohol alkoxyates (AA), similarly, generally decreases with an increasing number of PO units. AA containing 6 PO units did not pass the level required for ready biodegradability whereas the same alcohol containing 2 PO units attained 83% ThOD in the closed bottle test.

The mineralization observed in experiments with ¹⁴C-labelled surfactants suggests that almost complete degradation of linear AE may be expected in anaerobic digesters.

Algae constitute the group of aquatic organisms which appears to be the most sensitive to AE. The acute toxicity of linear and branched AE to algae is in the same range with EC50 values from 0.05 to 50 mg/l. For the linear AE, the toxicity increases with increasing hydrophobe chain length of C13) and decreasing EO chain length. The toxicity of AE to algae tends to decrease with increasing degree of branching.

The acute toxicity of AE to invertebrates varies with EC50 values from 0.1 mg/l to more than 100 mg/l for the linear types and from 0.5 mg/l to 50 mg/l for the branched types. The toxicity is species specific and may vary between 0.29 mg/l to 270 mg/l for the same linear AE. The most commonly used invertebrates for testing are *Daphnia magna* and *Daphnia pulex*, and they are also among the most sensitive invertebrates to AE. Apparently, the toxicity of AE to invertebrates was not related to hydrophobicity as it is the case for algae. Some AE are very toxic to invertebrates, i.e., linear AE of C12-15 EO1-8 and branched AE with a low degree of branching, i.e. < 10-25%. Branching of the alkyl chain reduces the toxicity of AE to invertebrates as also observed for algae.

The acute toxicity of AE to fish varies with LC50 values from 0.4 mg/l to more than 100 mg/l for the linear types and from 0.25 mg/l to 40 mg/l for the branched AE. For linear AE the toxicity increases with decreasing EO units. AE containing 7-11 EO groups are considered to be very toxic to fish (EC/LC50: 1 mg/l).

Of special interest are the aryl alcohol ethoxylates.

A EU Risk Assessment Report (RAR) concluded that octyl- and nonyl- phenol ethoxylates are not readily biodegradable but are inherently biodegradable.

As a group, these materials are generally toxic to fish with LC50s ranging, typically, between 1-6 mg/l.

Of special concern are the following families which are classified as "Environmentally Hazardous Substances" (Dangerous Goods Class 9) by either or both the ADR (Accord Europeen Relatif au Transport International des Merchandises Dangerous par Route) and the IMDG Code (International Maritime Dangerous Goods Code).

alcohols C 6-17 (secondary) with 3-6 moles of ethoxylation.

alcohols C12-15 with 1-3 moles of ethoxylation (1-6 moles of ethoxylation IMDG)

alcohols C13-15 with 1-6 moles of ethoxylation.

New aquatic data suggests that alcohols C 8-9 branched with 3-10 moles of ethoxylation alcohols C 8-9 branched with > 10 moles of ethoxylation should also be classified as 'harmful to the environment'.

These alcohols may also be found linked to aromatic structures (in nonylphenol ethoxylates for example). The current consensus determines that such entities become Environmental Toxins by association.

Ecotoxicity

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Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
propylene glycol	LOW		LOW	HIGH
2, 4, 4' - trichloro- 2' - hydroxydiphenyl ether	HIGH		LOW	LOW
hydroxyethylcellulose	LOW		LOW	HIGH
water	LOW		LOW	HIGH

Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

propylene glycol (CAS: 57-55-6) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

2,4,4'-trichloro-2'-hydroxydiphenyl ether (CAS: 3380-34-5) is found on the following regulatory lists;

"Australia Hazardous Substances", "Australia Inventory of Chemical Substances (AICS)", "International Chemical Secretariat (ChemSec) REACH SIN* List (*Substitute It Now!) 1.0", "OECD Representative List of High Production Volume (HPV) Chemicals"

sodium cumene sulfonate (CAS: 28348-53-0,32073-22-6) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

hydroxyethylcellulose (CAS: 9004-62-0) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)"

lanolin, ethoxylated (CAS: 61790-81-6,8039-09-6) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)"

water (CAS: 7732-18-5) is found on the following regulatory lists;

"Australia Inventory of Chemical Substances (AICS)", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "OECD Representative List of High Production Volume (HPV) Chemicals"

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Section 15 - REGULATORY INFORMATION

No data for J&J Medical Microshield T Triclosan Skin Cleanser (CW: 6518-07)

No data for sodium lauryl ether sulfate (CW: 22625)

Section 16 - OTHER INFORMATION

Denmark Advisory list for selfclassification of dangerous substances

Substance	CAS	Suggested codes
sodium cumene sulfonate	28348- 53- 0	R52/53
sodium cumene sulfonate	32073- 22- 6	N R51/53

INGREDIENTS WITH MULTIPLE CAS NUMBERS

Ingredient Name	CAS
sodium cumene sulfonate	28348- 53- 0, 32073- 22- 6
lanolin, ethoxylated	61790- 81- 6, 8039- 09- 6

• 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/references.

• The (M)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.

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