

# Microshield T Hand Cleanser

Schulke India Pvt Ltd

Chemwatch: 74-2028  
Version No: 2.1.1.1  
Safety Data Sheet

Chemwatch Hazard Alert Code: 1

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L.GHS.IND.EN

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

### Product Identifier

|                               |                             |
|-------------------------------|-----------------------------|
| Product name                  | Microshield T Hand Cleanser |
| Synonyms                      | Not Available               |
| Other means of identification | Not Available               |

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

|                          |                                                                                                                   |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|
| Relevant identified uses | SDS are intended for use in the workplace. For domestic-use products, refer to consumer labels.<br>Hand cleanser. |
|--------------------------|-------------------------------------------------------------------------------------------------------------------|

### Details of the supplier of the safety data sheet

|                         |                                                                                  |
|-------------------------|----------------------------------------------------------------------------------|
| Registered company name | Schulke India Pvt Ltd                                                            |
| Address                 | A-24/9 Mohan Cooperative Industrial Estate, Mathura Road New Delhi 110 044 India |
| Telephone               | +911 130 796 000                                                                 |
| Fax                     | +911 142 595 051                                                                 |
| Website                 | www.schuelke.co.in                                                               |
| Email                   | customercare.india@schuelke.com                                                  |

### Emergency telephone number

|                                   |                  |
|-----------------------------------|------------------|
| Association / Organisation        | +911 130 796 000 |
| Emergency telephone numbers       | Not Available    |
| Other emergency telephone numbers | Not Available    |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

|                |                                                                    |
|----------------|--------------------------------------------------------------------|
| Classification | Acute Aquatic Hazard Category 3, Chronic Aquatic Hazard Category 3 |
|----------------|--------------------------------------------------------------------|

### Label elements

|                    |                |
|--------------------|----------------|
| GHS label elements | Not Applicable |
|--------------------|----------------|

|             |                |
|-------------|----------------|
| SIGNAL WORD | NOT APPLICABLE |
|-------------|----------------|

### Hazard statement(s)

|      |                                                    |
|------|----------------------------------------------------|
| H412 | Harmful to aquatic life with long lasting effects. |
|------|----------------------------------------------------|

### Precautionary statement(s) Prevention

|      |                                   |
|------|-----------------------------------|
| P273 | Avoid release to the environment. |
|------|-----------------------------------|

### Precautionary statement(s) Response

Not Applicable

### 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

Continued...

## Microshield T Hand Cleanser

| CAS No        | %[weight] | Name                                       | Classification                                                                                                                                                                                                                           |
|---------------|-----------|--------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3380-34-5     | <1        | <u>triclosan</u>                           | Acute Toxicity (Oral) Category 5, Acute Toxicity (Dermal) Category 5, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1; H303, H313, H315, H319, H410 |
| Not Available | >60       | Ingredients determined not to be hazardous | Not Applicable                                                                                                                                                                                                                           |

## SECTION 4 FIRST AID MEASURES

## Description of first aid measures

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>Wash out immediately with fresh running water.</li> <li>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.</li> <li>Seek medical attention without delay; if pain persists or recurs seek medical attention.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>                                                                                                               |
| <b>Skin Contact</b> | <p>No adverse effects anticipated from normal use.</p> <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>Flush skin and hair with running water (and soap if available).</li> <li>Seek medical attention in event of irritation.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>Other measures are usually unnecessary.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>For advice, contact a Poisons Information Centre or a doctor.</li> <li>If swallowed do <b>NOT</b> induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Seek medical advice.</li> </ul> |

## Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

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

## Special hazards arising from the substrate or mixture

|                             |            |
|-----------------------------|------------|
| <b>Fire Incompatibility</b> | None known |
|-----------------------------|------------|

## Advice for firefighters

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>Prevent, by any means available, spillage from entering drains or water courses.</li> <li>Use fire fighting procedures suitable for surrounding area.</li> <li><b>DO NOT</b> approach containers suspected to be hot.</li> <li>Cool fire exposed containers with water spray from a protected location.</li> <li>If safe to do so, remove containers from path of fire.</li> <li>Equipment should be thoroughly decontaminated after use.</li> </ul> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>Non combustible.</li> <li>Not considered to be a significant fire risk.</li> <li>Expansion or decomposition on heating may lead to violent rupture of containers.</li> <li>Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).</li> <li>May emit acid smoke.</li> </ul> <p>Decomposes on heating and produces toxic fumes of:</p> <p>carbon dioxide (CO<sub>2</sub>)</p>                                                                                                                                                                                                                |

## SECTION 6 ACCIDENTAL RELEASE MEASURES

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|                     |                                                                                                                                            |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Minor Spills</b> | <p>Slippery when spilt.</p> <p>Clean up all spills immediately.</p> <p>Wipe up.</p> <p>Place in clean drum then flush area with water.</p> |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------|

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|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Major Spills | <p>Slippery when spilt.<br/>Minor hazard.</p> <ul style="list-style-type: none"> <li>Clear area of personnel.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>Control personal contact with the substance, by using protective equipment as required.</li> <li>Prevent spillage from entering drains or water ways.</li> <li>Contain spill with sand, earth or vermiculite.</li> <li>Collect recoverable product into labelled containers for recycling.</li> <li>Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.</li> <li>Wash area and prevent runoff into drains or waterways.</li> <li>If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |
|--------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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"> <li>Limit all unnecessary personal contact.</li> <li>Wear protective clothing when risk of exposure occurs.</li> <li>Use in a well-ventilated area.</li> <li><b>When handling DO NOT eat, drink or smoke.</b></li> <li>Always wash hands with soap and water after handling.</li> <li>Avoid physical damage to containers.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul> |
| Other information | <p>Keep cool. Store below 25 deg.C</p> <ul style="list-style-type: none"> <li>Store in original containers.</li> <li>Keep containers securely sealed.</li> <li>Store in a cool, dry, well-ventilated area.</li> <li>Store away from incompatible materials and foodstuff containers.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>                                     |

## Conditions for safe storage, including any incompatibilities

|                         |                   |
|-------------------------|-------------------|
| Suitable container      | Plastic container |
| Storage incompatibility | None known        |

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

## Control parameters

## OCCUPATIONAL EXPOSURE LIMITS (OEL)

## INGREDIENT DATA

Not Available

## EMERGENCY LIMITS

| Ingredient                  | Material name | TEEL-1        | TEEL-2        | TEEL-3        |
|-----------------------------|---------------|---------------|---------------|---------------|
| Microshield T Hand Cleanser | Not Available | Not Available | Not Available | Not Available |

| Ingredient                                 | Original IDLH | Revised IDLH  |
|--------------------------------------------|---------------|---------------|
| triclosan                                  | Not Available | Not Available |
| Ingredients determined not to be hazardous | Not Available | Not Available |

## MATERIAL DATA

None assigned. Refer to individual constituents.

## Exposure controls

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Appropriate engineering controls | <p>None under normal operating conditions.<br/>Provide adequate ventilation in warehouse or closed storage areas.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Personal protection              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Eye and face protection          | <p>No special equipment for minor exposure i.e. when handling small quantities.<br/>OTHERWISE:</p> <ul style="list-style-type: none"> <li>Safety glasses with side shields.</li> <li>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]</li> </ul> |
| Skin protection                  | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Hands/feet protection            | Wear general protective gloves, eg. light weight rubber gloves.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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|                         |                                                                                                                                                                                                   |
|-------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Body protection</b>  | See Other protection below                                                                                                                                                                        |
| <b>Other protection</b> | No special equipment needed when handling small quantities.<br><b>OTHERWISE:</b> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Barrier cream.</li> <li>▶ Eyewash unit.</li> </ul> |
| <b>Thermal hazards</b>  | 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:

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| Material       | CPI |
|----------------|-----|
| BUTYL          | C   |
| NATURAL RUBBER | C   |
| NEOPRENE       | C   |
| PVA            | C   |
| VITON          | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

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

## SECTION 10 STABILITY AND REACTIVITY

|                                           |                                                                                                                                                                                                      |
|-------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | See section 7                                                                                                                                                                                        |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7                                                                                                                                                                                        |
| <b>Conditions to avoid</b>                | See section 7                                                                                                                                                                                        |
| <b>Incompatible materials</b>             | See section 7                                                                                                                                                                                        |
| <b>Hazardous decomposition products</b>   | See section 5                                                                                                                                                                                        |

## SECTION 11 TOXICOLOGICAL INFORMATION

## Microshield T Hand Cleanser

## Information on toxicological effects

|                     |                                                                                                                                                                                                                                                                                       |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhaled</b>      | Not normally a hazard due to non-volatile nature of product                                                                                                                                                                                                                           |
| <b>Ingestion</b>    | Ingestion may result in nausea, abdominal irritation, pain and vomiting                                                                                                                                                                                                               |
| <b>Skin Contact</b> | Excessive use or prolonged contact may lead to defatting, drying and irritation of sensitive skin<br>Not considered to cause discomfort through normal use.                                                                                                                           |
| <b>Eye</b>          | The liquid may produce eye discomfort causing transient smarting, blinking                                                                                                                                                                                                            |
| <b>Chronic</b>      | No adverse effects anticipated from normal use.<br>Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. |

|                                    |                                                                                                                                                                                                                              |                                                               |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|
| <b>Microshield T Hand Cleanser</b> | <b>TOXICITY</b>                                                                                                                                                                                                              | <b>IRRITATION</b>                                             |
|                                    | Not Available                                                                                                                                                                                                                | Not Available                                                 |
| <b>triclosan</b>                   | <b>TOXICITY</b>                                                                                                                                                                                                              | <b>IRRITATION</b>                                             |
|                                    | Dermal (rabbit) LD50: >6000 mg/kg <sup>[2]</sup>                                                                                                                                                                             | Eye: SEVERE **                                                |
|                                    | Oral (rat) LD50: 3700 mg/kg <sup>[2]</sup>                                                                                                                                                                                   | Skin (human): 0.75 mg/3d-I- mild<br>Skin (rabbit): 10% - mild |
| <b>Legend:</b>                     | 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 |                                                               |

|                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| <b>TRICLOSAN</b> | <p>For triclosan:</p> <p>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</p> <p>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 .</p> <p><b>Skin Sensitisation:</b></p> <p>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) . No local dermal irritation or systemic toxicity was reported.</p> <p><b>Human Skin Irritation and Sensitisation:</b></p> <p>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 sensitizer or irritant.</p> <p><b>Reproductive/Developmental Toxicity:</b></p> <p>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</p> <p>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</p> <p><b>Cellular toxicity:</b></p> <p>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 <i>in vitro</i></p> <p><b>Genetic toxicity:</b> 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.</p> <p><b>Endocrine disruption:</b> 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</p> <p>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.</p> <p>Nomination Profile Supporting Information for Toxicological Evaluation by the National Toxicology Program July 2008</p> <p>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</p> <p>Polyhalogenated aromatic hydrocarbons (PHAHs) comprise two major groups. The first group represented by the halogenated derivatives of dibenzodioxins (the chlorinated form is PCDD), dibenzofurans (PCDF) and biphenyls (PCB) exert their toxic effect (as hepatocarcinogens, reproductive toxicants, immunotoxicants and procarcinogens) by interaction with a cytosolic protein known as the Ah receptor. In guinea pigs the Ah receptor is active in a mechanism which "pumps" PHAH into the cell whilst in humans the reverse appears to be true. This, in part, may account for species differences often cited in the literature. This receptor exhibits an affinity for the planar members of this group and carries these to the cellular nucleus where they bind, reversibly, to specific genomes on DNA. This results in the regulation of the production of certain proteins which elicit the toxic response. The potency of the effect is dependent on the strength of the original interaction with the Ah receptor and is influenced by the degree of substitution by the halogen and the position of such substitutions on the parent compound.</p> <p>The most potent molecule is 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) while the coplanar PCBs (including mono-ortho coplanars) possess approximately 1% of this potency. Nevertheless, all are said to exhibit "dioxin-like" behaviour and in environmental and health assessments it has been the practice to assign each a TCDD-equivalence value.</p> <p>The most subtle and important biological effects of the PHAHs are the effects on endocrine hormones and vitamin homeostasis. TCDD mimics the effect of thyroxine (a key metamorphosis signal during maturation) and may disrupt patterns of embryonic development at critical stages. Individuals from exposed wildlife populations have been observed to have altered sexual development, sexual dysfunction as adults and immune system suppression. Immunotoxic effects of the PHAHs (including the brominated congener, PBB) have been the subject of several studies. No clear pattern emerges in human studies however with T-cell</p> |
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numbers and function (a blood marker for immunological response) increasing in some and decreasing in others.

Developmental toxicity (e.g. cleft palate, hydronephrosis) occurs in relatively few species; functional alterations following TCDD exposure leads to deficits in cognitive functions in monkeys and to adverse effects in the male reproductive system of rats.

Three incidences have occurred which have introduced abnormally high levels of dioxin or dioxin-like congeners to humans. The explosion at a trichlorophenol-manufacturing plant in Seveso, Italy distributed TCDD across a large area of the country-side, whilst rice-oil contaminated with heat-transfer PCBs (and dioxin-like contaminants) has been consumed by two groups, on separate occasions (one in Yusho, Japan and another in Yu-cheng, Taiwan). The only symptom which can unequivocally be related to all these exposures is the development of chloracne, a disfiguring skin condition, following each incident. Contaminated oil poisonings also produced eye-discharge, swelling of eyelids and visual disturbances. The Babies born up to 3 years after maternal exposure (so-called "Yusho-babies") were characteristically brown skinned, coloured gums and nails and (frequently) produced eye-discharges. Delays in intellectual development have been noted. It has been estimated that Yu-cheng patients consumed an average level of 0.06 mg/kg body weight/day total PCB and 0.0002 mg/kg/day of PCDF before the onset of symptoms after 3 months. When the oil was withdrawn after 6 months they had consumed 1 gm total PCB containing 3.8 mg PCDF. Taiwanese patients consumed 10 times as much contaminated oil as the Japanese patients (because of later withdrawal); however since PCB/PCDF concentration in the Japanese oil was 10 times that consumed in Taiwan, patients from both countries consumed about the same amount of PCBs/PCDFs. Preliminary data from the Yusho cohort suggests a six-fold excess of liver cancer mortality in males and a three-fold excess in women.

Recent findings from Seveso indicate that the biological effects of low level exposure (BELLEs), experienced by a cohort located at a great distance from the plant, may be hormetic, i.e. may be protective AGAINST the development of cancer. The PHAHs do not appear to be genotoxic - they do not alter the integrity of DNA. This contrasts with the effects of the many polycyclic aromatic hydrocarbons (PAHs) (or more properly, their reactive metabolites). TCDD induces carcinogenic effects in the laboratory in all species, strains and sexes tested. These effects are dose-related and occur in many organs. Exposures as low as 0.001 ug/kg body weight/day produce carcinoma. Several studies implicate PCBs in the development of liver cancer in workers as well as multi-site cancers in animals. The second major group of PHAH consists of the non-planar PCB congeners which possess two or more ortho-substituted halogens. These have been shown to produce neurotoxic effects which are thought to reduce the concentration of the brain neurotransmitter, dopamine, by inhibiting certain enzyme-mediated processes. The specific effect elicited by both classes of PHAH seems to depend on the as much on the developmental status of the organism at the time of the exposure as on the level of exposure over a lifetime.

**NOTE:** Some jurisdictions require that health surveillance be conducted on workers occupationally exposed to polycyclic aromatic hydrocarbons. Such surveillance should emphasise

- ▶ demography, occupational and medical history
- ▶ health advice, including recognition of photosensitivity and skin changes
- ▶ physical examination if indicated
- ▶ records of personal exposure including photosensitivity

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

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.

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

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| 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 |
|------------|----------|--------------------|-------------------------------|-------------|--------|
| triclosan  | LC50     | 96                 | Fish                          | 0.108mg/L   | 3      |
| triclosan  | EC50     | 48                 | Crustacea                     | 0.191mg/L   | 2      |
| triclosan  | EC50     | 96                 | Algae or other aquatic plants | 0.0007mg/L  | 4      |
| triclosan  | BCF      | 168                | Fish                          | 0.03mg/L    | 4      |
| triclosan  | EC25     | 96                 | Algae or other aquatic plants | 0.00067mg/L | 4      |
| triclosan  | NOEC     | 72                 | Algae or other aquatic plants | 0.0002mg/L  | 4      |

## 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

**DO NOT** discharge into sewer or waterways.

## Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|
| triclosan  | HIGH                    | HIGH             |

Continued...

## Microshield T Hand Cleanser

## Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|-----------------|
| triclosan  | LOW (BCF = 90)  |

## Mobility in soil

| Ingredient | Mobility          |
|------------|-------------------|
| triclosan  | LOW (KOC = 18420) |

## SECTION 13 DISPOSAL CONSIDERATIONS

## Waste treatment methods

| Product / Packaging disposal | <ul style="list-style-type: none"> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Bury residue in an authorised landfill.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## SECTION 14 TRANSPORT INFORMATION

## Labels Required

| Marine Pollutant | NO |
|------------------|----|
|------------------|----|

Land transport (UN): 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

TRICLOSAN(3380-34-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

| National Inventory            | Status                                                                                                                                                                                              |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AICS              | Y                                                                                                                                                                                                   |
| Canada - DSL                  | Y                                                                                                                                                                                                   |
| Canada - NDSL                 | N (triclosan)                                                                                                                                                                                       |
| China - IECSC                 | Y                                                                                                                                                                                                   |
| Europe - EINEC / ELINCS / NLP | Y                                                                                                                                                                                                   |
| Japan - ENCS                  | Y                                                                                                                                                                                                   |
| Korea - KECI                  | Y                                                                                                                                                                                                   |
| New Zealand - NZIoC           | Y                                                                                                                                                                                                   |
| Philippines - PICCS           | Y                                                                                                                                                                                                   |
| USA - TSCA                    | Y                                                                                                                                                                                                   |
| <b>Legend:</b>                | <p>Y = All ingredients are on the inventory</p> <p>N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</p> |

## SECTION 16 OTHER INFORMATION

## Other information

## Ingredients with multiple cas numbers

| Name      | CAS No                                                       |
|-----------|--------------------------------------------------------------|
| triclosan | 3380-34-5, 112099-35-1, 164325-69-3, 261921-78-2, 88032-08-0 |

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](http://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.

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**Microshield T Hand Cleanser**

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**Definitions and abbreviations**

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

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TEL (+61 3) 9572 4700.