

**TOPCLIN Des****Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING****1.1 Product identifier**

Product name : TOPCLIN Des

Product code : 118592E

Use of the Substance/Mixture : Biocide

Substance type: : Mixture

**For professional users only.**

Product dilution information : No dilution information provided.

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

Identified uses : Surface disinfectant. Spray and rinse manual process  
Kitchen cleaner. Spray and wipe manual process

Recommended restrictions on use : Reserved for industrial and professional use.

**1.3 Details of the supplier of the safety data sheet**

Company : Ecolab Ltd.  
PO Box 11; Winnington Avenue  
Northwich, Cheshire, United Kingdom CW8 4DX  
+ 44 (0)1606 74488  
ccs@ecolab.com

**1.4 Emergency telephone number**

Emergency telephone number : +441618841235  
+32-(0)3-575-5555 Trans-European

Poison Information Centre telephone number : For medical professionals only: 0344 892 0111

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version : 2.1

**Section: 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008)**

Skin irritation, Category 2	H315
Serious eye damage, Category 1	H318
Acute aquatic toxicity, Category 1	H400
Chronic aquatic toxicity, Category 2	H411

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The classification of this product is based on toxicological assessment.

**2.2 Label elements**

**Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H315 Causes skin irritation.  
 H318 Causes serious eye damage.  
 H400 Very toxic to aquatic life.  
 H411 Toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**  
 P273 Avoid release to the environment.  
 P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
 P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P310 Immediately call a POISON CENTER/doctor.

Hazardous components which must be listed on the label:  
 benzalkonium chloride  
 Alcohols, C13, branched, ethoxylated

**2.3 Other hazards**

None known.

**Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Hazardous components**

Chemical Name	CAS-No. EC-No. REACH No.	Classification REGULATION (EC) No 1272/2008	Concentration : [%]
benzalkonium chloride	68424-85-1 939-253-5 01-2119965180-41	Acute toxicity Category 4; H302 Skin corrosion Category 1B; H314 Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 1; H410  M = 10 M(Chronic) = 1	>= 5 - < 10
Alcohols, C13, branched, ethoxylated	69011-36-5 POLYMER	Acute toxicity Category 4; H302 Serious eye damage Category 1; H318	>= 1 - < 2.5
Didecyl Dimethyl	7173-51-5	Acute toxicity Category 4; H302	>= 0.5 - < 1

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Ammonium Chloride	230-525-2 01-2119945987-15	Skin corrosion Sub-category 1B; H314 Serious eye damage Category 1; H318 Acute aquatic toxicity Category 1; H400 Chronic aquatic toxicity Category 2; H411  M = 10	
<b>Substances with a workplace exposure limit :</b>			
Ethylene Glycol	107-21-1 203-473-3 01-2119456816-28	Acute toxicity Category 4; H302 Specific target organ toxicity - repeated exposure Category 2; H373	>= 0.25 - < 0.5
sodium hydroxide	1310-73-2 215-185-5 01-2119457892-27	Skin corrosion Category 1A; H314 Corrosive to metals Category 1; H290  Skin corrosion Category 1A H314 >= 5 % Skin corrosion Category 1B H314 2 - < 5 % Skin irritation Category 2 H315 0.5 - < 2 % Eye irritation Category 2 H319 0.5 - < 2 %	>= 0.1 - < 0.25

For the full text of the H-Statements mentioned in this Section, see Section 16.

**Section: 4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
- In case of skin contact : Wash off immediately with plenty of water for at least 15 minutes. Use a mild soap if available. Get medical attention if irritation develops and persists.
- If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If conscious, give 2 glasses of water. Get medical attention immediately.
- If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention if symptoms occur.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Indication of immediate medical attention and special treatment needed**

Treatment : Treat symptomatically.

**Section: 5. FIREFIGHTING MEASURES**

**5.1 Extinguishing media**

Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

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Unsuitable extinguishing media : None known.

**5.2 Special hazards arising from the substance or mixture**

Specific hazards during firefighting : Not flammable or combustible.

Hazardous combustion products : Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides  
nitrogen oxides (NO<sub>x</sub>)  
Hydrogen chloride  
metal oxides

**5.3 Advice for firefighters**

Special protective equipment for firefighters : Use personal protective equipment.

Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. In the event of fire and/or explosion do not breathe fumes.

**Section: 6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel : Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid inhalation, ingestion and contact with skin and eyes. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

Advice for emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

**6.2 Environmental precautions**

Environmental precautions : Do not allow contact with soil, surface or ground water.

**6.3 Methods and materials for containment and cleaning up**

Methods for cleaning up : Stop leak if safe to do so. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13). Flush away traces with water. For large spills, dike spilled material or otherwise contain material to ensure runoff does not reach a waterway.

**6.4 Reference to other sections**

See Section 1 for emergency contact information.  
For personal protection see section 8.

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See Section 13 for additional waste treatment information.

**Section: 7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Advice on safe handling : Avoid contact with skin and eyes. Do not get in eyes, on skin, or on clothing. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not breathe spray, vapour. In case of mechanical malfunction, or if in contact with unknown dilution of product, wear full Personal Protective Equipment (PPE).

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

**7.2 Conditions for safe storage, including any incompatibilities**

Requirements for storage areas and containers : Protect from frost, heat and sunlight. Store at room temperature in the original container. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : -5 °C to 40 °C

**7.3 Specific end uses**

Specific use(s) : Surface disinfectant. Spray and rinse manual process  
Kitchen cleaner. Spray and wipe manual process

**Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1 Control parameters**

**Occupational Exposure Limits**

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ethylene Glycol	107-21-1	TWA (particles)	10 mg/m3	UKCOSSTD
Further information	Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		TWA (Vapour.)	20 ppm 52 mg/m3	UKCOSSTD
Further information	Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
		STEL (Vapour.)	40 ppm 104 mg/m3	UKCOSSTD
Further information	Sk	Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity.		
sodium hydroxide	1310-73-2	STEL	2 mg/m3	UKCOSSTD

**DNEL**

Ethylene Glycol	:	End Use: Workers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 106 mg/cm2  End Use: Workers
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	<p>Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 35 mg/m3</p> <p>End Use: Consumers Exposure routes: Skin contact Potential health effects: Long-term systemic effects Value: 53 mg/cm2</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 7 mg/m3</p>
sodium hydroxide	<p>: End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3</p> <p>End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1 mg/m3</p>

**PNEC**

Ethylene Glycol	<p>: Fresh water Value: 10 mg/l</p> <p>Marine water Value: 1 mg/l</p> <p>Water Value: 10 mg/l</p> <p>Fresh water sediment Value: 20.9 mg/kg</p> <p>Water Value: 1995.5 mg/l</p> <p>Soil Value: 1.53 mg/kg</p>
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**8.2 Exposure controls**

**Appropriate engineering controls**

Engineering measures : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Individual protection measures**

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

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Wash face, hands and any exposed skin thoroughly after handling. Provide suitable facilities for quick drenching or flushing of the eyes and body in case of contact or splash hazard.

- Eye/face protection (EN 166) : Safety goggles  
Face-shield
- Hand protection (EN 374) : Recommended preventive skin protection  
Gloves  
Nitrile rubber  
butyl-rubber  
Breakthrough time: 1 – 4 hours  
Minimum thickness for butyl-rubber 0.3 mm for nitrile rubber 0.2 mm or equivalent (please refer to the gloves manufacturer/distributor for advise).  
Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Skin and body protection (EN 14605) : No special protective equipment required.
- Respiratory protection (EN 143, 14387) : None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Use certified respiratory protection equipment meeting EU requirements(89/656/EEC, (EU) 2016/425), or equivalent, when respiratory risks cannot be avoided or sufficiently limited by technical means of collective protection or by measures, methods or procedures of work organization.

**Environmental exposure controls**

- General advice : Consider the provision of containment around storage vessels.

**Section: 9. PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

- Appearance : liquid
- Colour : clear, light yellow
- Odour : slight
- pH : 11.9 - 12.9, 100 %
- Flash point : closed cup Not applicable.
- Odour Threshold : Not applicable and/or not determined for the mixture
- Melting point/freezing point : Not applicable and/or not determined for the mixture
- Initial boiling point and boiling range : Not applicable and/or not determined for the mixture
- Evaporation rate : Not applicable and/or not determined for the mixture
- Flammability (solid, gas) : Not applicable and/or not determined for the mixture
- Upper explosion limit : Not applicable and/or not determined for the mixture
- Lower explosion limit : Not applicable and/or not determined for the mixture
- Vapour pressure : Not applicable and/or not determined for the mixture
- Relative vapour density : Not applicable and/or not determined for the mixture

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Relative density	: 1.046 - 1.056
Water solubility	: soluble
Solubility in other solvents	: Not applicable and/or not determined for the mixture
Partition coefficient: n-octanol/water	: Not applicable and/or not determined for the mixture
Auto-ignition temperature	: Not applicable and/or not determined for the mixture
Thermal decomposition	: Not applicable and/or not determined for the mixture
Viscosity, kinematic	: Not applicable and/or not determined for the mixture
Explosive properties	: Not applicable and/or not determined for the mixture
Oxidizing properties	: The substance or mixture is not classified as oxidizing.

**9.2 Other information**

Not applicable and/or not determined for the mixture

**Section: 10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

No dangerous reaction known under conditions of normal use.

**10.2 Chemical stability**

Stable under normal conditions.

**10.3 Possibility of hazardous reactions**

No dangerous reaction known under conditions of normal use.

**10.4 Conditions to avoid**

None known.

**10.5 Incompatible materials**

Acids

**10.6 Hazardous decomposition products**

Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides  
nitrogen oxides (NO<sub>x</sub>)  
Hydrogen chloride  
metal oxides

**Section: 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

Information on likely routes of exposure : Inhalation, Eye contact, Skin contact

**Product**



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Acute oral toxicity	: Acute toxicity estimate : > 2,000 mg/kg
Acute inhalation toxicity	: There is no data available for this product.
Acute dermal toxicity	: There is no data available for this product.
Skin corrosion/irritation	: Skin irritation
Serious eye damage/eye irritation	: There is no data available for this product.
Respiratory or skin sensitization	: There is no data available for this product.
Carcinogenicity	: There is no data available for this product.
Reproductive effects	: There is no data available for this product.
Germ cell mutagenicity	: There is no data available for this product.
Teratogenicity	: There is no data available for this product.
STOT - single exposure	: There is no data available for this product.
STOT - repeated exposure	: There is no data available for this product.
Aspiration toxicity	: There is no data available for this product.

**Components**

Acute oral toxicity	: benzalkonium chloride LD50 rat: 344 mg/kg Alcohols, C13, branched, ethoxylated LD50 rat: > 500 mg/kg
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**Components**

Acute dermal toxicity	: benzalkonium chloride LD50 rabbit: 3,340 mg/kg Didecyl Dimethyl Ammonium Chloride LD50 rabbit: 2,930 mg/kg Ethylene Glycol LD50 rabbit: 10,600 mg/kg
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**Potential Health Effects**

Eyes	: Causes serious eye damage.
Skin	: Causes skin irritation.
Ingestion	: Health injuries are not known or expected under normal use.
Inhalation	: Health injuries are not known or expected under normal use.
Chronic Exposure	: Health injuries are not known or expected under normal use.

**Experience with human exposure**

Eye contact	: Redness, Pain, Corrosion
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Skin contact : Redness, Irritation  
Ingestion : No symptoms known or expected.  
Inhalation : No symptoms known or expected.

**Section: 12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

Environmental Effects : Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**Product**

Toxicity to fish : no data available  
Toxicity to daphnia and other aquatic invertebrates : no data available  
Toxicity to algae : no data available

**Components**

Toxicity to fish : Alcohols, C13, branched, ethoxylated96 h LC50 Fish: 3 mg/l  
Didecyl Dimethyl Ammonium Chloride96 h LC50 Fish: > 1 mg/l  
Ethylene Glycol96 h LC50: 72,860 mg/l

**Components**

Toxicity to daphnia and other aquatic invertebrates : benzalkonium chloride48 h EC50 Daphnia magna (Water flea): 0.016 mg/l  
Alcohols, C13, branched, ethoxylated48 h EC50 Daphnia magna (Water flea): 1.5 mg/l  
Didecyl Dimethyl Ammonium Chloride48 h EC50 Daphnia magna (Water flea): 0.029 mg/l  
Ethylene Glycol48 h EC50: > 100 mg/l  
sodium hydroxide48 h EC50 Daphnia magna (Water flea): 40 mg/l

**Components**

Toxicity to algae : Didecyl Dimethyl Ammonium Chloride72 h EC50 Pseudokirchneriella subcapitata (algae): 0.062 mg/l  
Ethylene Glycol96 h EC50: 6,500 mg/l

**12.2 Persistence and degradability**

**Product**

Biodegradability : The surfactants contained in the product are biodegradable according to the requirements of the detergent regulation 648/2004/EC

**Components**

**TOPCLIN Des**

Biodegradability : benzalkonium chlorideResult: Biodegradable  
Alcohols, C13, branched, ethoxylatedResult: Biodegradable  
Didecyl Dimethyl Ammonium ChlorideResult: Biodegradable  
Ethylene GlycolResult: Readily biodegradable.  
sodium hydroxideResult: Not applicable - inorganic

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

no data available

**12.5 Results of PBT and vPvB assessment**

**Product**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

no data available

**Section: 13. DISPOSAL CONSIDERATIONS**

Dispose of in accordance with the European Directives on waste and hazardous waste.Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

**13.1 Waste treatment methods**

Product : Do not contaminate storm water drains, natural waterways or soil with chemical or used container. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of contents/container in accordance with local regulations. Dispose of wastes in an approved waste disposal facility.

Contaminated packaging : Dispose of as unused product. Empty containers should be taken to an approved waste handling site for recycling or disposal. Do not re-use empty containers. Dispose of in accordance with local, state, and federal regulations.

Guidance for Waste Code selection : Organic wastes containing dangerous substances. If this product is used in any further processes, the final user must redefine and assign the most appropriate European Waste Catalogue Code. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable European (EU Directive 2008/98/EC) and local regulations.

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**Section: 14. TRANSPORT INFORMATION**

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

**Land transport (ADR/ADN/RID)**

- 14.1 UN number : 3082
- 14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(quaternary ammonium compound)
- 14.3 Transport hazard class(es) : 9
- 14.4 Packing group : III
- 14.5 Environmental hazards : Yes
  
- 14.6 Special precautions for user : None

**Air transport (IATA)**

- 14.1 UN number : 3082
- 14.2 UN proper shipping name : Environmentally hazardous substance, liquid, n.o.s.  
(quaternary ammonium compound)
- 14.3 Transport hazard class(es) : 9
- 14.4 Packing group : III
- 14.5 Environmental hazards : Yes
  
- 14.6 Special precautions for user : None

**Sea transport (IMDG/IMO)**

- 14.1 UN number : 3082
- 14.2 UN proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.  
(quaternary ammonium compound)
- 14.3 Transport hazard class(es) : 9
- 14.4 Packing group : III
- 14.5 Environmental hazards : Yes
  
- 14.6 Special precautions for user : None
- 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not applicable.

**Section: 15. REGULATORY INFORMATION**

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

- according to Detergents Regulation EC 648/2004 : 5 % or over but less than 15 %: Cationic surfactants  
less than 5 %: Non-ionic surfactants  
Contains: Disinfectants

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Seveso III: Directive : ENVIRONMENTAL HAZARDS E1  
 2012/18/EU of the European Lower tier : 100 t  
 Parliament and of the Council Upper tier : 200 t  
 on the control of major-  
 accident hazards involving  
 dangerous substances.

Candidate List of Substances : Not applicable.  
 of Very High Concern for  
 Authorisation

**National Regulations**

**Take note of Dir 94/33/EC on the protection of young people at work.**

Other regulations : The Chemicals (Hazard Information and Packaging for Supply)  
 Regulations.  
 The Control of Substances Hazardous to Health Regulations.  
 Health and Safety at Work Act.

**15.2 Chemical Safety Assessment**

No Chemical Safety Assessment has been carried out on the product.

**Section: 16. OTHER INFORMATION**

**Procedure used to derive the classification according to REGULATION (EC) No 1272/2008**

Classification	Justification
Skin irritation 2, H315	Based on product data or assessment
Serious eye damage 1, H318	Based on product data or assessment
Acute aquatic toxicity 1, H400	Calculation method
Chronic aquatic toxicity 2, H411	Calculation method

**Full text of H-Statements**

H290 May be corrosive to metals.  
 H302 Harmful if swallowed.  
 H314 Causes severe skin burns and eye damage.  
 H318 Causes serious eye damage.  
 H373 May cause damage to organs through prolonged or repeated exposure.  
 H400 Very toxic to aquatic life.  
 H410 Very toxic to aquatic life with long lasting effects.  
 H411 Toxic to aquatic life with long lasting effects.

**Full text of other abbreviations**

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and

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Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECl - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Prepared by : Regulatory Affairs

Numbers quoted in the MSDS are given in the format: 1,000,000 = 1 million and 1,000 = 1 thousand. 0.1 = 1 tenth and 0.001 = 1 thousandth

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Annex: Exposure Scenarios**

**Exposure Scenario: Kitchen cleaner. Spray and wipe manual process**

Life Cycle Stage : Widespread use by professional workers  
Product category : **PC35** Washing and cleaning products (including solvent based products)

**Contributing scenario controlling environmental exposure for:**

Environmental release category : **ERC8a** Wide dispersive indoor use of processing aids in open systems  
Daily amount per site : 7.5 kg  
Type of Sewage Treatment Plant : Municipal sewage treatment plant

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**Contributing scenario controlling worker exposure for:**

Process category : **PROC10** Roller application or brushing  
Exposure duration : 480 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8  
Respiratory Protection : see section 8

**Contributing scenario controlling worker exposure for:**

Process category : **PROC8a** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities  
Exposure duration : 60 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8  
Respiratory Protection : see section 8

**Contributing scenario controlling worker exposure for:**

Process category : **PROC11** Non industrial spraying  
Exposure duration : 60 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8  
Respiratory Protection : see section 8

**Exposure Scenario: Surface disinfectant. Spray and rinse manual process**

Life Cycle Stage : Widespread use by professional workers  
Product category : **PC35** Washing and cleaning products (including solvent based products)

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**Contributing scenario controlling environmental exposure for:**

Environmental release category : **ERC8a** Wide dispersive indoor use of processing aids in open systems  
Daily amount per site : 7.5 kg  
Type of Sewage Treatment Plant : Municipal sewage treatment plant

**Contributing scenario controlling worker exposure for:**

Process category : **PROC10** Roller application or brushing  
Exposure duration : 480 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8  
Respiratory Protection : see section 8

**Contributing scenario controlling worker exposure for:**

Process category : **PROC8a** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at non-dedicated facilities  
Exposure duration : 60 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8  
Respiratory Protection : see section 8

**Contributing scenario controlling worker exposure for:**

Process category : **PROC11** Non industrial spraying  
Exposure duration : 60 min  
Operational conditions and risk management measures : Indoor  
Local Exhaust Ventilation is not required  
General ventilation Ventilation rate per hour 1  
Skin Protection : see section 8



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Respiratory Protection : see section 8