

**MEIKO ACTIVE R-US 2190**

**Section: 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1 Product identifier**

Product name : MEIKO ACTIVE R-US 2190

Product code : 117731E

Use of the  
Substance/Mixture : Rinse Additive

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 : Dishwash and rinse aid product; Automatic 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

MEIKO UK Limited  
Bade House, 393 Edinburgh Avenue  
Slough, Berkshire, SL1 4UF, United Kingdom +44 (0)1753 215120  
www.meiko-uk.co.uk

**1.4 Emergency telephone number**

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

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Version : 2.0

**Section: 2. HAZARDS IDENTIFICATION**

**2.1 Classification of the substance or mixture**

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

|| Skin irritation, Category 2 H315  
Eye irritation, Category 2 H319

**MEIKO ACTIVE R-US 2190****2.2 Label elements****Labelling (REGULATION (EC) No 1272/2008)**

Hazard pictograms :



Signal Word :

Warning

Hazard Statements :

H315  
H319Causes skin irritation.  
Causes serious eye irritation.

Precautionary Statements :

**Prevention:**  
P280e

Wear eye protection/face protection.

**2.3 Other hazards**

None known.

**Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS****3.2 Mixtures****Hazardous components**

| Chemical Name              | CAS-No.<br>EC-No.<br>REACH No.              | Classification<br>REGULATION (EC) No 1272/2008  | Concentration<br>: [%] |
|----------------------------|---|---|------------------------|
| Ethoxylated alkyl alcohol  | 166736-08-9<br>polymer exempt               | Acute toxicity Category 4; H302<br>Skin irritation Category 2; H315   | >= 10 - < 20           |
| Alcohol ethoxylate         | 68439-51-0<br>POLYMER                       | Chronic aquatic toxicity Category 3; H412   | >= 1 - < 2.5           |
| Isotridecanol, ethoxylated | 69011-36-5<br>500-241-6<br>01-2119976362-32 | Acute toxicity Category 4; H302<br>Skin irritation Category 2; H315<br>Serious eye damage Category 1; H318<br>Chronic aquatic toxicity Category 3; H412 | >= 1 - < 2.5           |
| Sodiumcumenesulphonate     | 28348-53-0<br>248-983-7<br>01-2120759186-46 | Eye irritation Category 2; H319<br><br>Skin corrosion/irritation Category 3<br>> 60 %   | >= 1 - < 2.5           |
| Isopropyl Alcohol          | 67-63-0<br>200-661-7<br>01-2119457558-25    | Flammable liquids Category 2; H225<br>Eye irritation Category 2; H319<br>Specific target organ toxicity - single<br>exposure Category 3; H336           | >= 1 - < 2.5           |

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

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at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention.

- 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. Get medical attention if symptoms occur.
- If inhaled : 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.
- Unsuitable extinguishing media : None known.

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

- Specific hazards during firefighting : Fire Hazard  
Keep away from heat and sources of ignition.  
Flash back possible over considerable distance.
- Hazardous combustion products : Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides  
Sulphur oxides  
metal oxides

**5.3 Advice for firefighters**

- Special protective equipment for firefighters : Use personal protective equipment.
- Further information : 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 : Remove all sources of ignition. Ensure clean-up is conducted by trained personnel only. Refer to protective measures listed in sections 7 and 8.

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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 : Eliminate all ignition sources if safe to do so. 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.  
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. Use only with adequate ventilation. Keep away from fire, sparks and heated surfaces. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Wash hands thoroughly after handling. 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.

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

Requirements for storage areas and containers : Keep away from heat and sources of ignition. Keep away from oxidizing agents. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers.

Storage temperature : 0 °C to 40 °C

**7.3 Specific end uses**

Specific use(s) : Dishwash and rinse aid product; Automatic process

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

**8.1 Control parameters**

**MEIKO ACTIVE R-US 2190****Occupational Exposure Limits**

| Components        | CAS-No. | Value type (Form of exposure) | Control parameters                 | Basis    |
|-------------------|---------|-------------------------------|------------------------------------|----------|
| Isopropyl Alcohol | 67-63-0 | TWA                           | 400 ppm<br>999 mg/m <sup>3</sup>   | UKCOSSTD |
|                   |         | STEL                          | 500 ppm<br>1,250 mg/m <sup>3</sup> | UKCOSSTD |

**DNEL**

|                   |   |   |
|-------------------|---|---|
| Isopropyl Alcohol | : | <p>End Use: Workers<br/>Exposure routes: Dermal<br/>Potential health effects: Long-term systemic effects<br/>888 mg/kg</p> <p>End Use: Workers<br/>Exposure routes: Inhalation<br/>Potential health effects: Long-term systemic effects<br/>Value: 500 mg/m<sup>3</sup></p> <p>End Use: Consumers<br/>Exposure routes: Dermal<br/>Potential health effects: Long-term systemic effects<br/>319 mg/kg</p> <p>End Use: Consumers<br/>Exposure routes: Inhalation<br/>Potential health effects: Long-term systemic effects<br/>Value: 89 mg/m<sup>3</sup></p> <p>End Use: Consumers<br/>Exposure routes: Ingestion<br/>Potential health effects: Long-term systemic effects<br/>26 mg/kg</p> |
|-------------------|---|---|

**PNEC**

|                   |   |   |
|-------------------|---|---|
| Isopropyl Alcohol | : | <p>Fresh water<br/>Value: 140.9 mg/l</p> <p>Marine water<br/>Value: 140.9 mg/l</p> <p>Intermittent use/release<br/>Value: 140.9 mg/l</p> <p>Fresh water<br/>Value: 552 mg/kg</p> <p>Marine sediment<br/>Value: 552 mg/kg</p> <p>Soil<br/>Value: 28 mg/kg</p> <p>Sewage treatment plant<br/>Value: 2251 mg/l</p> <p>Oral</p> |
|-------------------|---|---|

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|  |                  |
|--|------------------|
|  | Value: 160 mg/kg |
|--|------------------|

**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. Wash face, hands and any exposed skin thoroughly after handling.

Eye/face protection (EN 166) : Safety glasses with side-shields

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, blue  
Odour : very faint  
pH : 4.4 - 5.6, 100 %  
Flash point : 65 °C closed cup  
Odour Threshold : Not applicable and/or not determined for the mixture

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|   |  |
|---|--|
| 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     |
| Relative density                        | : 1.01 - 1.016   |
| Water solubility                        | : slightly 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**

Heat, flames and sparks.

**10.5 Incompatible materials**

None known.

**10.6 Hazardous decomposition products**

Depending on combustion properties, decomposition products may include following materials:  
Carbon oxides

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Sulphur oxides  
metal oxides

**Section: 11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

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

**Product**

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 : There is no data available for this product.

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 : Ethoxylated alkyl alcohol LD50 rat: > 300 mg/kg

Alcohol ethoxylate LD50 rat: > 2,000 mg/kg

Isotridecanol, ethoxylated LD50 rat: 800 mg/kg

Test substance: Information given is based on data obtained from similar substances.

Sodiumcumenesulphonate LD50 rat: > 7,000 mg/kg

Isopropyl Alcohol LD50 rat: 5,840 mg/kg

**Components**

Acute inhalation toxicity : Sodiumcumenesulphonate 4 h LC50 rat: > 770 mg/l

Test atmosphere: dust/mist



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Isopropyl Alcohol 4 h LC50 rat: > 30 mg/l  
Test atmosphere: vapour

**Components**

Acute dermal toxicity : Alcohol ethoxylate LD50 rat: > 5,000 mg/kg  
  
Isotridecanol, ethoxylated LD50 rat: 2,150 mg/kg  
Test substance: Information given is based on data obtained from similar substances.  
  
Sodiumcumenesulphonate LD50 rabbit: > 2,000 mg/kg  
  
Isopropyl Alcohol LD50 rabbit: 12,870 mg/kg

**Potential Health Effects**

Eyes : Causes serious eye irritation.  
  
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, Irritation  
  
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 : This product has no known ecotoxicological 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 : Ethoxylated alkyl alcohol96 h LC50 Pimephales promelas (fathead minnow): > 10 mg/l  
  
Alcohol ethoxylate48 h LC50 Leuciscus idus (Golden orfe): > 1 mg/l

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Isotridecanol, ethoxylated 96 h LC50 Fish: 20.13 mg/l  
Test substance: Information given is based on data obtained from similar substances.

Sodiumcumenesulphonate 96 h LC50 Fish: > 450 mg/l

Isopropyl Alcohol 96 h LC50 Pimephales promelas (fathead minnow): 9,640 mg/l

**Components**

Toxicity to daphnia and other aquatic invertebrates : Ethoxylated alkyl alcohol 48 h EC50 Daphnia magna (Water flea): > 100 mg/l  
Test substance: Information given is based on data obtained from similar substances.

Alcohol ethoxylate 24 h EC50 Daphnia magna (Water flea): > 1 mg/l

Isotridecanol, ethoxylated 48 h EC50 Daphnia magna (Water flea): 5.33 mg/l  
Test substance: Information given is based on data obtained from similar substances.

Isopropyl Alcohol LC50 Daphnia magna (Water flea): > 10,000 mg/l

**Components**

Toxicity to algae : Ethoxylated alkyl alcohol 72 h EC50 Pseudokirchneriella subcapitata (algae): > 10 mg/l

Alcohol ethoxylate 72 h EC50 Desmodesmus subspicatus (green algae): > 1 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**

Biodegradability : Ethoxylated alkyl alcohol Result: Readily biodegradable.

Alcohol ethoxylate Result: Readily biodegradable.

Isotridecanol, ethoxylated Result: Readily biodegradable.

Sodiumcumenesulphonate Result: Readily biodegradable.

Isopropyl Alcohol Result: Readily biodegradable.

**12.3 Bioaccumulative potential**

no data available

**12.4 Mobility in soil**

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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 : 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.

**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 : Not dangerous goods

14.2 UN proper shipping name : Not dangerous goods

14.3 Transport hazard class(es) : Not dangerous goods

14.4 Packing group : Not dangerous goods

14.5 Environmental hazards : Not dangerous goods

14.6 Special precautions for user : Not dangerous goods

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**Air transport (IATA)**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods  
14.6 Special precautions for user : Not dangerous goods

**Sea transport (IMDG/IMO)**

14.1 UN number : Not dangerous goods  
14.2 UN proper shipping name : Not dangerous goods  
14.3 Transport hazard class(es) : Not dangerous goods  
14.4 Packing group : Not dangerous goods  
14.5 Environmental hazards : Not dangerous goods  
14.6 Special precautions for user : Not dangerous goods  
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not dangerous goods

**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 : less than 5 %: Non-ionic surfactants

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. : Not applicable.

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

**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.

**MEIKO ACTIVE R-US 2190****Section: 16. OTHER INFORMATION****Procedure used to derive the classification according to REGULATION (EC) No 1272/2008**

| Classification          | Justification      |
|-------------------------|--------------------|
| Skin irritation 2, H315 | Calculation method |
| Eye irritation 2, H319  | Calculation method |

**Full text of H-Statements**

|      |  |
|------|--|
| H225 | Highly flammable liquid and vapour.                |
| H302 | Harmful if swallowed.                              |
| H315 | Causes skin irritation.                            |
| H318 | Causes serious eye damage.                         |
| H319 | Causes serious eye irritation.                     |
| H336 | May cause drowsiness or dizziness.                 |
| H412 | Harmful 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; AIIIC - 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 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; TECI - 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.

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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: Dishwash and rinse aid product; Automatic 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

**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 : **PROC3** Use in closed batch process (synthesis or formulation)

Exposure duration : 480 min

Operational conditions and risk management measures : Indoor

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Local Exhaust Ventilation is not required

|                     |                           |   |
|---------------------|---------------------------|---|
| General ventilation | Ventilation rate per hour | 1 |
|---------------------|---------------------------|---|

Skin Protection : see section 8

Respiratory Protection : see section 8