

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

Product name : Romit BF
Product code : 107913E
Use of the Substance/Mixture : Disinfectant
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 : Milking machine hygiene - milking cluster disinfection - CIP
Milking machine hygiene - milking cluster disinfection - dipping
Milking machine hygiene - milking cluster disinfection - non-industrial spraying

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
+353 (0)1 276 3500
ccs@ecolab.com

1.4 Emergency telephone number

Emergency telephone number : +353766805288
+32-(0)3-575-5555 Trans-European

Poison Information Centre telephone number : For medical professionals only:
+353 (0)1 837 9964 (8am-10pm)

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


Oxidizing liquids, Category 2	H272
Corrosive to metals, Category 1	H290
Acute toxicity, Category 4	H302

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Acute toxicity, Category 4	H332
Skin corrosion, Category 1A	H314
Serious eye damage, Category 1	H318
Specific target organ toxicity - single exposure, Category 3, Respiratory system	H335
Chronic aquatic toxicity, Category 1	H410

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms	:																	
Signal Word	:	Danger																
Hazard Statements	:	<table border="0"> <tr> <td>H272</td> <td>May intensify fire; oxidiser.</td> </tr> <tr> <td>H290</td> <td>May be corrosive to metals.</td> </tr> <tr> <td>H302 + H332</td> <td>Harmful if swallowed or if inhaled</td> </tr> <tr> <td>H314</td> <td>Causes severe skin burns and eye damage.</td> </tr> <tr> <td>H335</td> <td>May cause respiratory irritation.</td> </tr> <tr> <td>H410</td> <td>Very toxic to aquatic life with long lasting effects.</td> </tr> </table>	H272	May intensify fire; oxidiser.	H290	May be corrosive to metals.	H302 + H332	Harmful if swallowed or if inhaled	H314	Causes severe skin burns and eye damage.	H335	May cause respiratory irritation.	H410	Very toxic to aquatic life with long lasting effects.				
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Hazardous components which must be listed on the label:
 Hydrogen peroxide
 Acetic acid
 Peroxyacetic acid

2.3 Other hazards

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

Section: 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

Hazardous components

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Chemical Name	CAS-No. EC-No. REACH No.	ClassificationREGULATION (EC) No 1272/2008	Concentration: [%]
Hydrogen peroxide	7722-84-1 231-765-0 01-2119485845-22	Nota B Oxidizing liquids Category 1; H271 Acute toxicity Category 4; H302 Acute toxicity Category 4; H332 Skin corrosion Category 1A; H314	>= 25 - < 30
Acetic acid	64-19-7 200-580-7 01-2119475328-30	Nota B Flammable liquids Category 3; H226 Skin corrosion Category 1A; H314	>= 5 - < 10
Peroxyacetic acid	79-21-0 201-186-8 01-2119531330-56	Flammable liquids Category 3; H226 Organic peroxides Type D; H242 Acute toxicity Category 4; H302 Acute toxicity Category 4; H332 Acute toxicity Category 4; H312 Skin corrosion Category 1A; H314 Acute aquatic toxicity Category 1; H400 Specific target organ toxicity - single exposure Category 3; H335 Chronic aquatic toxicity Category 1; H410	>= 2.5 - < 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 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. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.
- If swallowed : Rinse mouth with water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- If inhaled : Remove to fresh air. Treat symptomatically. Get medical attention.

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 : Special protective equipment for firefighters
Oxidizer. Contact with other material may cause fire.
Oxidizer; material is an oxidizer which may readily react with other materials, especially upon heating.

Hazardous combustion products : Decomposition products may include the following materials:
Carbon oxides
nitrogen oxides (NOx)
Sulphur oxides
Oxides of phosphorus

5.3 Advice for firefighters

Special protective equipment for firefighters : In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

Further information : Use water spray to cool unopened containers. 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. Never soak up spilled or leaked acids and bases with sawdust, wood chips or similar materials. Isolate the waste do not allow it to come into contact with incompatible materials. For small spills contain with sand or vermiculite and dilute the contained product at least 10 times with water. Transfer to an open topped container and remove to a safe place for neutralization* / disposal. For large spills contain spill and evacuate the area, leave until the reaction subsides, then collect up for disposal. Obtain consent from the local water company / authority if considering discharge to sewer. *NEUTRALIZATION :

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once diluted, neutralize with a suitable alkali such as sodium bicarbonate.

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 : Do not ingest. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapours/spray. Use only with adequate ventilation. Wash hands thoroughly after handling. Do not mix with bleach or other chlorinated products – will cause chlorine gas.
- 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 : Keep only in original container. Absorb spillage to prevent material damage.
 Keep in a cool, well-ventilated place. Keep away from reducing agents. Keep away from strong bases. Keep away from combustible material. Keep out of reach of children. Keep container tightly closed. Store in suitable labeled containers. Pressure bursts may occur due to gas evolution if the container is not adequately vented.
- Storage temperature : 0 °C to 30 °C
- Packaging material : Suitable material: Plastic material
 Unsuitable material: Aluminium, Mild steel

7.3 Specific end uses

- Specific use(s) : Milking machine hygiene - milking cluster disinfection - CIP
 Milking machine hygiene - milking cluster disinfection - dipping
 Milking machine hygiene - milking cluster disinfection - non-industrial spraying

Section: 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Hydrogen peroxide	7722-84-1	OELV - 15 min	2 ppm	IR_OEL

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

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		(STEL)	3 mg/m3	
		OELV - 8 hrs (TWA)	1 ppm 1.5 mg/m3	IR_OEL
Acetic acid	64-19-7	OELV - 15 min (STEL)	15 ppm 37 mg/m3	IR_OEL
Further information	IOEL V	Indicative Occupational Exposure Limit Value		
		OELV - 8 hrs (TWA)	10 ppm 25 mg/m3	IR_OEL
Further information	IOEL V	Indicative Occupational Exposure Limit Value		
		TWA	10 ppm 25 mg/m3	2017/164/EU
Further information		Indicative		
		STEL	20 ppm 50 mg/m3	2017/164/EU
Further information		Indicative		

DNEL

Hydrogen peroxide	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Short-term - local Value: 3 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 1.4 mg/m3
peracetic acid	:	End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0.6 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 0.6 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 0.6 mg/m3
		End Use: Workers Exposure routes: Inhalation Potential health effects: Acute local effects Value: 0.6 mg/m3
		End Use: Workers Exposure routes: Skin contact Potential health effects: Acute local effects Value: 0.12
		End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term systemic effects Value: 0.6 mg/m3
		End Use: Consumers

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	Exposure routes: Inhalation Potential health effects: Acute systemic effects Value: 0.6 mg/m ³
	End Use: Consumers Exposure routes: Inhalation Potential health effects: Long-term local effects Value: 0.6 mg/m ³
	End Use: Consumers Exposure routes: Inhalation Potential health effects: Acute local effects Value: 0.3 mg/m ³

PNEC

peracetic acid	: Fresh water Value: 0.000224 mg/l
	Fresh water sediment Value: 0.00018 mg/kg
	Water Value: 0.051 mg/l
	Soil Value: 0.32 mg/kg

8.2 Exposure controls

Appropriate engineering controls

Engineering measures : Effective exhaust ventilation system. Maintain air concentrations below occupational exposure standards.

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. 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 0.7 mm for nitrile rubber 0.4 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 : Personal protective equipment comprising: suitable protective

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(EN 14605) gloves, safety goggles and protective clothing

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, 89/686/EEC), 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 : colourless
Odour : pungent
pH : 0.5 - 1.5, 100 %
Flash point : 100 °C closed cup, Does not sustain combustion.
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
Relative density : 1.11 - 1.13
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 : Yes

9.2 Other information

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VOC : Not applicable.

Section: 10. STABILITY AND REACTIVITY

10.1 Reactivity

No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

Contamination may result in dangerous pressure increases - closed containers may rupture.

10.3 Possibility of hazardous reactions

Do not mix with bleach or other chlorinated products – will cause chlorine gas.

10.4 Conditions to avoid

Direct sources of heat.
Exposure to sunlight.

10.5 Incompatible materials

Organic materials
Bases
Metals

Aluminium
Mild steel

10.6 Hazardous decomposition products

Decomposition products may include the following materials:
Carbon oxides
nitrogen oxides (NO_x)
Sulphur oxides
Oxides of phosphorus

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 : 1,550 mg/kg
Acute inhalation toxicity : 4 h Acute toxicity estimate : 4.76 mg/l
Test atmosphere: dust/mist
Acute dermal toxicity : Acute toxicity estimate : > 2,000 mg/kg
Skin corrosion/irritation : There is no data available for this product.

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- 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 : Hydrogen peroxide
LD50 rat: 486 mg/kg
- Acetic acid
LD50 rat: 3,310 mg/kg

Components

- Acute inhalation toxicity : Peroxyacetic acid
4 h LC50 rat: 1.5 mg/l
Test atmosphere: dust/mist

Components

- Acute dermal toxicity : Acetic acid
LD50 rabbit: 1,060 mg/kg

Potential Health Effects

- Eyes : Causes serious eye damage.
- Skin : Causes severe skin burns.
- Ingestion : Causes digestive tract burns.
- Inhalation : May cause respiratory tract irritation. May cause nose, throat, and lung irritation.
- Chronic Exposure : Health injuries are not known or expected under normal use.

Experience with human exposure

- Eye contact : Redness, Pain, Corrosion
- Skin contact : Redness, Pain, Corrosion
- Ingestion : Corrosion, Abdominal pain

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Inhalation : Respiratory irritation, Cough

Section: 12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Environmental Effects : Very 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 : Acetic acid
96 h LC50 Oncorhynchus mykiss (rainbow trout): > 1,000 mg/l

Peroxyacetic acid
96 h LC50: 0.8 mg/l

Components

Toxicity to daphnia and other aquatic invertebrates : Acetic acid
48 h EC50 Daphnia magna (Water flea): 39.6 mg/l

Peroxyacetic acid
48 h EC50: 0.73 mg/l

Components

Toxicity to algae : Hydrogen peroxide
72 h EC50: 1.38 mg/l

Acetic acid
72 h EC50 Skeletonema costatum (marine diatom): > 1,000 mg/l

Peroxyacetic acid
72 h EC50: 0.7 mg/l

12.2 Persistence and degradability

Product

no data available

Components

Biodegradability : Hydrogen peroxide
Result: Not applicable - inorganic

Acetic acid
Result: Readily biodegradable.

Peroxyacetic acid
Result: Readily biodegradable.

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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 : The product should not be allowed to enter drains, water courses or the soil. Where possible recycling is preferred to disposal or incineration. If recycling is not practicable, dispose of in compliance 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 : Inorganic 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 : 3149
- 14.2 UN proper shipping name : HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED

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14.3 Transport hazard class(es) : 5.1 (8)
 14.4 Packing group : II
 14.5 Environmental hazards : Yes
 14.6 Special precautions for user : None

Air transport (IATA)

14.1 UN number : 3149
 14.2 UN proper shipping name : Hydrogen peroxide and peroxyacetic acid mixture stabilized
 14.3 Transport hazard class(es) : 5.1 (8)
 14.4 Packing group : II
 14.5 Environmental hazards : Yes
 14.6 Special precautions for user : None

Sea transport (IMDG/IMO)

14.1 UN number : 3149
 14.2 UN proper shipping name : HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, STABILIZED
 14.3 Transport hazard class(es) : 5.1 (8)
 14.4 Packing group : II
 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

National Regulations

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

Other regulations : Safety, Health and Welfare at Work Act, 2005
 European Communities (Classification, Packaging, Labelling and Notification of Dangerous Preparations) Regulations 1995. (S.I. 272 of 1995) as amended

15.2 Chemical Safety Assessment

This product contains substances for which Chemical Safety Assessments are still required.

Section: 16. OTHER INFORMATION

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

Classification	Justification
Oxidizing liquids 2, H272	Based on product data or assessment
Corrosive to metals 1, H290	On basis of test data.
Acute toxicity 4, H302	Calculation method

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Acute toxicity 4, H332	Calculation method
Skin corrosion 1A, H314	Based on product data or assessment
Serious eye damage 1, H318	Based on product data or assessment
Specific target organ toxicity - single exposure 3, H335	Calculation method
Chronic aquatic toxicity 1, H410	Calculation method

Full text of H-Statements

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very 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; AICS – Australian Inventory of Chemical Substances; 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; TCSI – Taiwan Chemical Substance 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

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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: Milking machine hygiene - milking cluster disinfection - CIP

Life Cycle Stage : Use at industrial sites
Product category : **PC35** Washing and cleaning products (including solvent based products)
Sector of use : **SU1** Agriculture, forestry, fishery

Contributing scenario controlling environmental exposure for:

Environmental release category : **ERC4** Industrial use of processing aids in processes and products, not becoming part of articles
Daily amount per site : 10 kg
Type of Sewage Treatment Plant : Municipal sewage treatment plant

Contributing scenario controlling worker exposure for:

Process category : **PROC4** Use in batch and other process (synthesis) where opportunity for exposure arises
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 : No
Respiratory Protection : No

Contributing scenario controlling worker exposure for:

Process category : **PROC8b** Transfer of substance or preparation (charging/

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discharging) from/ to vessels/ large containers at 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 : Yes: See Section 8

Respiratory Protection : No

Exposure Scenario: Milking machine hygiene - milking cluster disinfection - dipping

Life Cycle Stage : Use at industrial sites

Product category : **PC35** Washing and cleaning products (including solvent based products)

Sector of use : **SU1** Agriculture, forestry, fishery

Contributing scenario controlling environmental exposure for:

Environmental release category : **ERC4** Industrial use of processing aids in processes and products, not becoming part of articles

Daily amount per site : 10 kg

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Contributing scenario controlling worker exposure for:

Process category : **PROC8b** Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at 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 : Yes: See Section 8

Respiratory Protection : No

Contributing scenario controlling worker exposure for:

Process category : **PROC13** Treatment of articles by dipping and pouring

Exposure duration : 480 min

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Operational conditions and risk management measures : Indoor

Local Exhaust Ventilation is not required

General ventilation Ventilation rate per hour 1

Skin Protection : No

Respiratory Protection : No

Exposure Scenario: Milking machine hygiene - milking cluster disinfection - non-industrial spraying

Life Cycle Stage : Use at industrial sites

Product category : **PC35** Washing and cleaning products (including solvent based products)

Sector of use : **SU1** Agriculture, forestry, fishery

Contributing scenario controlling environmental exposure for:

Environmental release category : **ERC4** Industrial use of processing aids in processes and products, not becoming part of articles

Daily amount per site : 10 kg

Type of Sewage Treatment Plant : Municipal sewage treatment plant

Contributing scenario controlling worker exposure for:

Process category : **PROC13** Treatment of articles by dipping and pouring

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 : No

Respiratory Protection : No

Contributing scenario controlling worker exposure for:

Process category : **PROC11** Non industrial spraying

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 : No

Respiratory Protection : No