Official Journal
of the European Union

EN
L series

2026/1337

18.6.2026

COMMISSION IMPLEMENTING REGULATION (EU) 2026/1337

of 17 June 2026

granting a Union authorisation for the biocidal product family 'Ecolab Glut Family' in accordance with Regulation (EU) No 528/2012 of the European Parliament and of the Council

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products ([1]), and in particular Article 44(5), first subparagraph, thereof,

Whereas:

(1) On 26 September 2016, Ecolab Deutschland GmbH submitted an application to the European Chemicals Agency ('the Agency') in accordance with Article 43(1) of Regulation (EU) No 528/2012 for Union authorisation of a biocidal product family named 'Ecolab Glut Family' of product-types 6, 11 and 12, as described in Annex V to that Regulation, providing written confirmation that the competent authority of the Netherlands had agreed to evaluate the application. The application was recorded under case number BC-VT027129-08 in the Register for Biocidal Products.

(2) 'Ecolab Glut Family' contains glutaraldehyde as the active substance, included in the Union list of approved active substances referred to in Article 9(2) of Regulation (EU) No 528/2012 for product-types 6, 11 and 12.

(3) On 14 March 2025, the evaluating competent authority submitted, in accordance with Article 44(1) of Regulation (EU) No 528/2012, an assessment report and the conclusions of its evaluation to the Agency.

(4) On 1 October 2025, the Agency submitted to the Commission its opinion ([2]), the draft summary of the biocidal product characteristics ('SPC') of 'Ecolab Glut Family' and the final assessment report on the biocidal product family, in accordance with Article 44(3) of Regulation (EU) No 528/2012.

(5) The opinion concludes that 'Ecolab Glut Family' is a biocidal product family within the meaning of Article 3(1), point (s), of Regulation (EU) No 528/2012, that it is eligible for Union authorisation in accordance with Article 42(1) of that Regulation and that, subject to compliance with the draft SPC, it meets the conditions laid down in Article 19(6) of that Regulation.

([1]) OJ L 167, 27.6.2012, p. 1, ELI: http://data.europa.eu/eli/reg/2012/528/oj.
([2]) ECHA opinion of 11 September 2025 on the Union authorisation of 'Ecolab Glut Family' (ECHA/BPC/497/2025), https://echa.europa.eu/opinions-on-union-authorisation.

(6) Glutaraldehyde was identified as a candidate for substitution by Commission Implementing Regulation (EU) 2015/1759 ([3]), which established that the substance meets the conditions set out in Article 10(1) of Regulation (EU) No 528/2012. Therefore, the evaluating competent authority performed a comparative assessment of the biocidal product in accordance with Article 23(1) of Regulation (EU) No 528/2012. That comparative assessment did not demonstrate that the making available on the market or the use of the 'Ecolab Glut Family' should be prohibited or restricted for the uses specified in the application for Union authorisation. That conclusion is based on several factors. First, there is a lack of other adequate authorised biocidal products. Second, no authorised biocidal products offer a combination of modes of action for a given use that would present a significantly lower overall risk to human health, animal health, or the environment, while still being sufficiently effective and without causing significant economic or practical disadvantages. Finally, the chemical diversity of the active substances is not adequate to minimise the occurrence of resistance in the target harmful organism. Therefore, 'Ecolab Glut Family' should be authorised for a period not exceeding 5 years in accordance with Article 23(6) of Regulation (EU) No 528/2012.

(7) On 16 October 2025, the Agency transmitted to the Commission the draft SPC in all the official languages of the Union in accordance with Article 44(4) of Regulation (EU) No 528/2012.

(8) The Commission concurs with the opinion of the Agency and considers it therefore appropriate to grant a Union authorisation for the biocidal product family 'Ecolab Glut Family'.

(9) The measures provided for in this Regulation are in accordance with the opinion of the Standing Committee on Biocidal Products,

HAS ADOPTED THIS REGULATION:

Article 1

A Union authorisation with authorisation number EU-0035830-0000 is hereby granted to Ecolab Deutschland GmbH for the making available on the market and use of the biocidal product family 'Ecolab Glut Family' in accordance with the summary of the biocidal product characteristics set out in the Annex.

The Union authorisation is valid from 8 July 2026 until 30 June 2031.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels, 17 June 2026.

For the Commission
The President
Ursula VON DER LEYEN

([3]) Commission Implementing Regulation (EU) 2015/1759 of 28 September 2015 approving glutaraldehyde as an existing active substance for use in biocidal products for product-types 2, 3, 4, 6, 11 and 12 (OJ L 257, 2.10.2015, p. 19, ELI: http://data.europa.eu/eli/reg_impl/2015/1759/oj).

ANNEX

Summary of product characteristics for a biocidal product family

Ecolab Glut Family

Product type(s)

PT06: Preservatives for products during storage

PT11: Preservatives for liquid-cooling and processing systems

PT12: Slimicides

Authorisation number EU-0035830-0000

R4BP asset number EU-0035830-0000

PART I

FIRST INFORMATION LEVEL

1. **ADMINISTRATIVE INFORMATION**

1.1. **Family name**

Name	Ecolab Glut Family

1.2. **Product type(s)**

Product type(s)	PT06: Preservatives for products during storage PT11: Preservatives for liquid-cooling and processing systems PT12: Slimicides

1.3. **Authorisation holder**

Name and address of the authorisation holder	Name	Ecolab Deutschland GmbH
	Address	Ecolab Allee 1 40789 Monheim am Rhein Germany
Authorisation number	EU-0035830-0000	
R4BP asset number	EU-0035830-0000	
Date of the authorisation	8 July 2026	
Expiry date of the authorisation	30 June 2031	

1.4. **Manufacturer(s) of the product**

Name of manufacturer	Ecolab Limited
Address of manufacturer	Brunel Way, Baglan Energy Park SA11 2GA Neath United Kingdom of Great Britain and Northern Ireland (the)

Location of manufacturing sites	Ecolab Limited site 1 Brunel Way, Baglan Energy Park SA11 2GA Neath United Kingdom of Great Britain and Northern Ireland (the)

Name of manufacturer	Laboratoires Prodene Klint
Address of manufacturer	Rue Denis Papin, 2, Z.I. Mitry Compans F-77290 Mitry-Mory France
Location of manufacturing sites	Laboratoires Prodene Klint site 1 Rue Denis Papin, 2, Z.I. Mitry Compans F-77290 Mitry-Mory France

Name of manufacturer	Ecolab Leeds
Address of manufacturer	Lotherton Way, Garforth LS25 2JY Leeds United Kingdom of Great Britain and Northern Ireland (the)
Location of manufacturing sites	Ecolab Leeds site 1 Lotherton Way, Garforth LS25 2JY Leeds United Kingdom of Great Britain and Northern Ireland (the)

Name of manufacturer	Nalco Deutschland Manufacturing GmbH und Co.KG
Address of manufacturer	Justus-von-Liebig-Str. 11 D-64584 Biebesheim Germany
Location of manufacturing sites	Nalco Deutschland Manufacturing GmbH und Co.KG site 1 Justus-von-Liebig-Str. 11 D-64584 Biebesheim Germany

Name of manufacturer	Ecolab Weavergate
Address of manufacturer	WINNINGTON AVENUE CW8 3AA NORTHWICH, CHESHIRE United Kingdom of Great Britain and Northern Ireland (the)
Location of manufacturing sites	Ecolab Weavergate site 1 WINNINGTON AVENUE CW8 3AA NORTHWICH, CHESHIRE United Kingdom of Great Britain and Northern Ireland (the)

Name of manufacturer	Ecolab Mullingar
Address of manufacturer	Forest Park Zone C Mullingar Ind. Estate Mullingar, Co. Westmeath Ireland
Location of manufacturing sites	Ecolab Mullingar site 1 Forest Park Zone C Mullingar Ind. Estate Mullingar, Co. Westmeath Ireland

Name of manufacturer	Ecolab d.o.o.
Address of manufacturer	Vajngerlova 4 2000 Maribor Slovenia
Location of manufacturing sites	Ecolab d.o.o. site 1 Vajngerlova 4 2000 Maribor Slovenia

Name of manufacturer	Ecolab Rozzano, Italy
Address of manufacturer	VIA GRANDI 9/11 20089 ROZZANO (MI) Italy
Location of manufacturing sites	Ecolab Rozzano, Italy site 1 VIA GRANDI 9/11 20089 ROZZANO (MI) Italy

Name of manufacturer	Ecolab B.V.B.A
Address of manufacturer	Havenlaan: 4 3980 Tessenderlo Belgium
Location of manufacturing sites	Ecolab B.V.B.A site 1 Havenlaan: 4 3980 Tessenderlo Belgium

Name of manufacturer	Nalco Española Manufacturing, SLU
Address of manufacturer	C/Tramuntana s/n, Polígono Industrial de Celrà 17460 CELRÀ (Girona) Spain
Location of manufacturing sites	Nalco Española Manufacturing, SLU site 1 C/ Tramuntana s/n, Polígono Industrial de Celrà 17460 CELRÀ (Girona) Spain

Name of manufacturer	Ecolab Production France SAS
Address of manufacturer	BP509, Avenue de Général Patton 51006 Châlons-en-Champagne France
Location of manufacturing sites	Ecolab Production France SAS site 1 BP509, Avenue de Général Patton 51006 Châlons-en-Champagne France

Name of manufacturer	Ecolab Mandra, Greece
Address of manufacturer	25km Old National Road Athens-Theve Mandra Attica Greece
Location of manufacturing sites	Ecolab Mandra, Greece site 1 25km Old National Road Athens-Theve Mandra Attica Greece

Name of manufacturer	NALCO FINLAND MANUFACTURING OY
Address of manufacturer	Kivikummuntie 1 FIN-07955 Tesjoki Finland
Location of manufacturing sites	NALCO FINLAND MANUFACTURING OY site 1 Kivikummuntie 1 FIN-07955 Tesjoki Finland

1.5. **Manufacturer(s) of the active substance(s)**

Active substance	Glutaraldehyde
Name of manufacturer	BASF SE
Address of manufacturer	Carl-Bosch-Str. 38 67056 Ludwigshafen Germany
Location of manufacturing sites	BASF SE site 1 Carl-Bosch-Str. 38 67056 Ludwigshafen Germany

Active substance	Glutaraldehyde
Name of manufacturer	Lanxess Corporation
Address of manufacturer	Route 25 25112 Institute, West Virginia United States (the)
Location of manufacturing sites	Lanxess Corporation site 1 Route 25 25112 Institute, West Virginia United States (the)

2. **PRODUCT FAMILY COMPOSITION AND FORMULATION**

2.1. **Qualitative and quantitative information on the composition of the family**

Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	24 - 50 % (w/w)

2.2. **Type(s) of formulation**

Formulation type(s)	AL Any other liquid

PART II

SECOND INFORMATION LEVEL META SPC(S)

1. **META SPC 1 ADMINISTRATIVE INFORMATION**

1.1. **Meta SPC 1 identifier**

Identifier	Meta SPC 1

1.2. **Suffix to the authorisation number**

Number	1-1

1.3. **Product type(s)**

Product type(s)	PT06: Preservatives for products during storage PT11: Preservatives for liquid-cooling and processing systems PT12: Slimicides

2. **META SPC 1 COMPOSITION**

2.1. **Qualitative and quantitative information on the composition of the meta SPC 1**

Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	24 - 24 % (w/w)

2.2. **Type(s) of formulation of the meta SPC 1**

Formulation type(s)	AL Any other liquid

3. **HAZARD AND PRECAUTIONARY STATEMENTS OF THE META SPC 1**

Hazard statements	H314: Causes severe skin burns and eye damage. H317: May cause an allergic skin reaction. H334: May cause allergy or asthma symptoms or breathing difficulties IF INHALED. H412: Harmful to aquatic life with long lasting effects. H302: Harmful IF SWALLOWED. H331: Toxic IF INHALED. EUH071: Corrosive to the respiratory tract.
Precautionary statements	P260: Do not breathe vapours. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear gloves/protective clothing/eye protection/face protection. P284: [In case of inadequate ventilation] wear respiratory protection. P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P310: Immediately call a POISON CENTER or doctor/physician. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.

	P342+P311: If experiencing respiratory symptoms: Call a POISON CENTER/doctor/.... P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P363: Wash contaminated clothing before reuse. P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up. P501: Dispose of contents to a hazardous waste disposal service in accordance with the statutory regulations. P501: Dispose of container to a hazardous waste disposal service in accordance with the statutory regulations.

4. **AUTHORISED USE(S) OF THE META SPC**

4.1. **Use description**

Table 1

Preservation of detergents and cleaning fluids and raw materials thereof

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of water-based surfactants detergents and cleaning fluids such as (but not limited to) laundry products, laundry softener, liquid dishwashing products, hard surface cleaners and raw materials for use in detergent and cleaning applications and other uses of defoamers, degreasers and surfactants in for paper, leather and textile and other industries
Application method(s)	Method: single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture.
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (100 – 3 916 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (200-1 958 mg of product/kg matrix) For curative use against Bacteria & Yeasts: 62,5-979 mg/kg a.s. with a contact time of 48 hours (250 – 3 916 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 3 days (2 000 – 3 916 mg of product/kg matrix) Number and timing of application: Single application

Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg High Density Polyethylene (HDPE) drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE Intermediate Bulk Containers (IBCs)

4.1.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.1.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures. See section 6 for the full reference to European standards and Council Directive.

4.1.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to the general directions for use.

4.1.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to the general directions for use.

4.1.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to the general directions for use.

4.2. **Use description**

Table 2

Preservation of wax and polymer emulsions and raw materials thereof

Product type	PT06: Preservatives for products during storage
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use outdoor use Preservative for water-based polymer emulsions (for instance polishes, car polishes, water repellents, wax emulsions and waxes)
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (100-3 916 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (200-3 916 mg of product/kg matrix) For curative use against: Bacteria & yeasts: 62,5- 979 mg/kg a.s. with a contact time of 48 hours; (250-3 916 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 3 days (2 000-3 916 mg of product/kg) Number and timing of application: Single application
Category(ies) of users	industrial professional
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.2.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.2.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Re-entry is only permitted once the air concentration of the a.s. has dropped below the reference value [AEC inhalation of 0.0106 mg/m^3].

See section 6 for the full reference to European standards and Council Directive.

4.2.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.2.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.2.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.3. **Use description**

Table 3

Preservation of water-based products used in the paper industry

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of water-based additives for the production of paper (For instance inorganic slurries, detergents, organic dispersions, polymers, pigments, inks, cellulose, starch, glues and their raw materials and pulp). Preservation of on-site made preparations or additives such as inorganic slurries or dyes solutions being used in the wet-end of paper machines.
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture.
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (100-3 916 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 10-979 mg/kg a.s. (40-3 961 mg of product/kg matrix) For curative use against Bacteria, yeasts 62,5-979 mg/kg a.s. with a contact time of 2 days. (250-3 916 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 7 days. (2 000-3 916 mg of product/kg matrix) Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.3.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.3.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling of undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Handling of preserved product:

Products must not be used for direct preservation of aqueous pulp mixtures (cellulose and additives) intended to be placed on the market for use in systems without automatic pumping and maintenance cleaning processes.

If not used in systems with automatic pumping and maintenance cleaning processes:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

See section 6 for the full reference to European standards and Council Directive.

4.3.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use

4.3.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use

4.3.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use

4.4. **Use description**

Table 4

Preservation of paints and raw materials thereof

Product type	PT06: Preservatives for products during storage
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use outdoor use Preservation of paints and coatings and raw materials for the production of paints, plastic, construction materials and glues (for instance pigments, polymer and pigment dispersions, and inorganic slurries used as fillers)
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture.
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (100-3 916 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 10-979 mg/kg a.s. (40-3 916 mg of product/kg matrix) Curative use against; Bacteria, yeasts: 25-979 mg/kg a.s. with a contact time of 7 days, (100-3 916 mg of product/kg matrix) Fungi: 500-979 mg/kg a.s. with a contact time of 7 days (2 000-3 916 mg of product/kg matrix) Number and timing of application: One time dosage
Category(ies) of users	industrial professional
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.4.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.4.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

The product must not be added to paints and coatings which are applied by spraying.

See section 6 for the full reference to European standards and Council Directive.

4.4.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.4.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.4.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.5. **Use description**

Table 5

Preservation of auxiliaries used in leather and textile industry

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of additives for the production of leather and textile e.g. leather re-fattening agents, pigment and polymer dispersions.
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture.
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (100-3 916 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (200-3 916 mg of product/kg matrix) For curative use against bacteria and yeasts : 62,5-979 mg/kg a.s. with a contact time of 2 days. (250-3 916 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 7 days. (2 000-3 916 mg of product/kg matrix) Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.5.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.5.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling of undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Handling of preserved product:

Products must not be used for preservation of leather/textile additives intended for uses where wet hides or wet textiles are not handled automatically and where for waste water treatment industry standards according to BAT are not met.

If not used in automated closed system:

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

The use of protective coveralls (at least type 3, EN 14605, coveralls material to be specified by the authorisation holder within the product information) when handling wet hides or wet textiles is recommended.

See section 6 for the full reference to European standards and Council Directive.

4.5.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.5.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.5.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.6. **Use description**

Table 6

Preservation of liquid-cooling and processing systems

Product type	PT11: Preservatives for liquid-cooling and processing systems
Target organism(s) (including development stage)	Common name: bacteria Common name: Legionella - pneumophila
Field(s) of use	indoor use outdoor use Prevention of microbial growth in cooling water in recirculating systems (maximum blowdown flowrate 2 m^3/h) which may affect process efficiency (heat exchange), materials degradation, filter plugging, and hygiene conditions.
Application method(s)	Method: Regular addition to the water system Detailed description: slug doses of product to the water system via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: For closed system: For curative use against bacteria and Legionella sp.: 24-250 mg/l a.s. (100-1 000 mg of product/l) with a contact time of 1 hour for bacteria and 3 hours for Legionella sp. For preventive use against bacteria and Legionella sp.: 50-250 mg/l a.s (208-1 000 mg of product/l) For small open recirculating system: For curative use against bacteria and Legionella sp.: 24-50 mg/l a.s. (100-208 mg of product/l) with a contact time of 1 hour for bacteria and 3 hours for Legionella sp. For preventive use against bacteria and Legionella sp.: 50 mg/l a.s (208 mg of product/l) Number and timing of application: For closed system: 1 dose per day For small open recirculating system: 1-3 doses per week
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.6.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.6.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures must be considered by preference (personal protection measures shall not be permanent measures).

Application of the product is restricted to cooling systems with a maximum blow down flowrate of 2 m^3/h. Wastewater must be discharged to the municipal sewer, purified in an on-site industrial sewage treatment plant including a biological treatment step, or directly to surface water via a settling pond that allows a minimum hydraulic retention time of 105 days. The flow rate of the receiving freshwater body must be sufficient to achieve a dilution of at least 200 times.

The interval between the last dose and system drainage should be at least 36 hrs.

See section 6 for the full reference to European standards and Council Directive.

4.6.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.6.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.6.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.7. **Use description**

Table 7

Preservation of hydrotesting fluids in offshore oil field applications

Product type	PT11: Preservatives for liquid-cooling and processing systems
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore Preservation of hydrotesting fluids in offshore oil field applications to prevent microbially induced deterioration and corrosion.
Application method(s)	Method: Single addition to the testing water Detailed description: Single dose of product to the testing water via automated pumps and dosing lines.
Application rate(s) and frequency	Application Rate: For curative use: 12,5-2 000 mg/l a.s. (50-8 000 mg of product/l) with a contact time of 4 hours. Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.7.1. *Use-specific instructions for use*

For the control of bacteria for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.7.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the hydrotesting fluid. This concentration can be achieved either by slow release and/or long retention times resulting in sufficient degradation of glutaraldehyde and/orby dilution with unpolluted wate, and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Hydrotesting water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

If small volumes have to be disposed of or if it is not possible to reduce the concentration to 0,2 mg/l, the fluid can be released to seawater directly by reducing the blowdown rate to allow sufficient dilution in seawater. The required reduction is locational and depends strongly on e.g. flow velocity.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site.

If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.7.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.7.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.7.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.8. **Use description**

Table 8

Preservation of production and injection water in offshore oilfield applications

Product type	PT11: Preservatives for liquid-cooling and processing systems
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore (Produced) Water (re-) injection systems in water treatment units, in the produced water system, in gas/crude production, transmission and storage systems, and during pipeline pigging and scraping operations to prevent microbially induced deterioration and corrosion.
Application method(s)	Method: Addition to vessels, tanks, pipelines etc. Detailed description: Addition of product to the water phases via automated pumps and dosing lines.
Application rate(s) and frequency	Application Rate: • 12,5-750 mg a.s./L water (50-3 000 mg of product/l water) • for direct preservation of produced water discharged: 12,5-130 mg a.s./l water (50-520 mg of product/l water) Number and timing of application: For injection water and production water re-injection, pipeline and storage tank uses: — Add 50-3 000 mg of 24% glutaraldehyde solution per liter water (0,001-0,075% a.s) once per week with a dosing time of 1-6 hours or — 50-3 000 mg of 24% glutaraldehyde solution per liter water daily over 2 hours. — Dose rate max. 3 000 mg/l of 24% glutaraldehyde solution per liter water daily with a dosing time of 1 hour or — max. 3 000 mg/l of 24% glutaraldehyde solution weekly with a dosing time of 2 hours or — max. 2 400 mg/l of 24% glutaraldehyde solution every two weeks for 6 hours or other dosing regimens resulting in same or lower daily average concentrations. — For produced water intended to be disposed to the sea: — dose min. 50 mg/l - max. 72 mg/l 24% glutaraldehyde solution daily with a dosing time of 2 hours or — 50 mg/l – max. 520 mg/l 24% glutaraldehyde solution weekly with a dosing time of two hours or other dosing regimens resulting in the same or lower daily average concentrations. Contact time of minimun 24 hours should be observed before discharge.

Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.8.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.8.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the produced water. This concentration can be achieved either by slow release and/or long retention times resulting in degradation of glutaraldehyde and/or by dilution and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or addition of sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Produced water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

See section 6 for the full reference to European standards and Council Directive.

4.8.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.8.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.8.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.9. **Use description**

Table 9

Slimicide for hydrotesting fluids in offshore oilfield applications

Product type	PT12: Slimicides
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore To avoid microbially induced corrosion and spoilage by destroying biofilm in pipelines, vessels, boilers etc. during pressure tests after construction or maintenance.
Application method(s)	Method: Single addition to the testing water Detailed description: Single dose of product to the testing water via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: For curative use: 12,5-2 000 mg a.s./l water. (50-8 000 mg of product/l water) Number and timing of application: Single addition to the fluids, allow a minimal contact time of 24 hours (shut-in) before discharge.
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.9.1. *Use-specific instructions for use*

For the control of bacteria for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.9.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the hydrotesting fluid. This concentration can be achieved either by slow release and/or long retention times resulting in sufficient degradation of glutaraldehyde and/or by dilution with unpolluted water, and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Hydrotesting water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

If small volumes have to be disposed of or if it is not possible to reduce the concentration to 0,2 mg/l, the fluid can be released to seawater directly by reducing the blowdown rate to allow sufficient dilution in seawater. The required reduction is locational and depends strongly on e.g. flow velocity.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site.

If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.9.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.9.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.9.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.10. **Use description**

Table 10

Slimicide for production and injection water in offshore oilfield applications

Product type	PT12: Slimicides
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore To avoid microbially induced corrosion and spoilage by destroying biofilm in (produced) water (re–) injection systems in water treatment units, in the produced water system, in gas/crude production, transmission and storage systems and during pipeline pigging and scraping operations.
Application method(s)	Method: Single addition to the testing water Detailed description: Single dose of product to the testing water via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: • 12,5-750 mg a.s./l water (50-3 000 mg of product/l water) • for direct preservation of produced water discharged: 12,5-130 mg a.s./l water (50-520 mg of product/l water) Number and timing of application: For injection water and production water re-injection, pipeline and storage tank uses: — Add 50-3 000 mg of 24% glutaraldehyde solution per liter water (0,001-0,075% a.s.) once per week with a dosing time of 1-6 hours or — 50-3 000 mg of 24% glutaraldehyde solution per liter water daily over 2 hours. — Dose rate max. 3 000 mg/l 24% glutaraldehyde solution per liter water daily with a dosing time of 1 hour or — max. 3 000 mg/l 24% glutaraldehyde solution weekly with a dosing time of 2 hours or — max. 2 400 mg/l 24% glutaraldehyde solution every two weeks for 6 hours or other dosing regimens resulting in same or lower daily average concentrations. — For produced water intended to be disposed to the sea: — dose min. 50 mg/l - max. 72 mg/l of 24% glutaraldehyde solution daily with a dosing time of 2 hours or — 50 mg/l – max 520 mg/l of 24% glutaraldehyde solution weekly with a dosing time of two hours or other dosing regimens resulting in the same or lower daily average concentrations. Contact time of minimum 24 hours should be observed before discharge.

Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.10.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.10.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the produced water. This concentration can be achieved either by slow release and/or long retention times resulting in degradation of glutaraldehyde and/or by dilution and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or addition of sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Produced water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

See section 6 for the full reference to European standards and Council Directive.

4.10.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.10.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.10.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.11. **Use description**

Table 11

Slimicide for paper industry, wet end

Product type	PT12: Slimicides
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: fungi
Field(s) of use	indoor use For use as paper slimicide during continuous paper production, for slime control/prevention in process water and for short term protection of wet stock during machine shut down.
Application method(s)	Method: Addition to vessels, tanks, circuits etc. Detailed description: Automatic addition of product into the white water circuit, head box or machine chest via pumps and dosing lines.
Application rate(s) and frequency	Application Rate: • For curative use by shock dose: bacteria: 15-200 mg a.s./l (60-800 mg of product/l) Contact time: 3 hours fungi: 100-200 mg a.s./l (400-800 mg of product/l) Contact time: 24 hours • For preventive use by intermittent dosage against bacteria: 15-150 mg a.s./l (60-600 mg of product) Number and timing of application: Single dosage over 1 hour or repeat every 6-8 hours (intermittent dosage)

Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.11.1. *Use-specific instructions for use*

For the control of bacteria and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.11.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

If not used in systems with automatic pumping and maintenance cleaning processes:

chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

Ensure low level of containment.

Application is only allowed in paper factories that comply with the Industrial Emission Directive 2010/75/EU where wastewater is purified in an on-site industrial sewage treatment plant including a biological treatment step in accordance to the Best Available Techniques (BAT) as prescribed in the BAT-reference document (BREF) for the production of pulp, paper and board. The effluent must be diluted at least 200 times. Paper factories that are exempted from the Industrial Emission Directive must discharge their waste water to the municipal sewer.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site. If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.11.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.11.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.11.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.12. **Use description**

Table 12

Slimicide for paper industry, paper de-inking

Product type	PT12: Slimicides
Target organism(s) (including development stage)	Common name: bacteria Common name: fungi
Field(s) of use	indoor use The control of slime and microbial release of catalase enzyme interfering with the de-inking process during paper recycling.
Application method(s)	Method: Addition to vessels, tanks, circuits etc. Detailed description: Automatic addition of product into the white water circuit, head box or machine chest via pumps and dosing lines
Application rate(s) and frequency	Application Rate: For preventive use against bacteria: 15-125 mg a.s./l water (60-500 mg of product/l) For curative use against bacteria and fungi: shock dose as bactericide: 15-125 mg a.s./l water (60-500 mg of product/l) with a contact time of 3 hours. shock dose as fungicide: 100-125 mg a.s/l water (400-500 mg of product/l) with a contact time of 24 hours. Number and timing of application: up to 4 times per day lasting 30 minutes

Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.12.1. *Use-specific instructions for use*

For the control of bacteria and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.12.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

If not used in systems with automatic pumping and maintenance cleaning processes:

chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

Application is only allowed in paper factories that comply with the Industrial Emission Directive 2010/75/EU where wastewater is purified in an on-site industrial sewage treatment plant including a biological treatment step in accordance to the Best Available Techniques (BAT) as prescribed in the BAT-reference document (BREF) for the production of pulp, paper and board. The effluent must be diluted at least 200 times. Paper factories that are exempted from the Industrial Emission Directive must discharge their waste water to the municipal sewer.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site. If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.12.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.12.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.12.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

5. **GENERAL DIRECTIONS FOR USE OF THE META SPC 1**

5.1. **Instructions for use**

See *Use-specific instructions for use* per use

5.2. **Risk mitigation measures**

See *Use-specific risk mitigation measures* per use

5.3. **Particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment**

Likely direct or indirect effects may include: Skin and eye contact: Irritation to severe burns of the skin and eyes. May induce eye lacrimation, skin sensitization and/or allergic dermatitis. Mouth contact/ingestion: Irritation to corrosion of the gastrointestinal tract. May include nausea, vomiting, ulceration of the esophagus and/or stomach with subsequent perforation, hematemesis and/or internal bleeding. Inhalation/aspiration: Irritation to corrosion of the respiratory tract. May include coughing, rhinitis, coryza, epistaxis, pulmonary oedema, bronchospasm, respiratory distress and/ or asthma. Other clinical manifestations may include; headache, tachycardia, palpitations, hypotension and depression of the CNS.

First aid

IF INHALED: Move to fresh air and keep at rest in a position comfortable for breathing. Immediately call 112/ ambulance for medical assistance.

Information to Healthcare personnel/doctor:

Initiate life support measures if needed, thereafter call a POISON CENTRE.

IF SWALLOWED: Immediately rinse mouth. Give something to drink, if exposed person is able to swallow. Do NOT induce vomiting. Call 112/ambulance for medical assistance.

Information to Healthcare personnel/doctor: Initiate life support measures if needed, thereafter call a POISON CENTRE.

IF ON SKIN: Immediately wash skin with plenty of water. Thereafter take off all contaminated clothing and wash it before reuse. Continue to wash the skin with water for 15 minutes. Call a POISON CENTRE or a doctor.

IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Call 112/ambulance for medical assistance.

5.4. **Instructions for safe disposal of the product and its packaging**

Incinerate in suitable incineration plant, observing local authority regulations. Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

5.5. **Conditions of storage and shelf-life of the product under normal conditions of storage**

Store in a well ventilated place. Keep container tightly closed.

Keep at temperature not exceeding 40°C.

Shelf-life: 24 months

6. **OTHER INFORMATION**

The full titles of the EN standards referenced in the Risk mitigation measures are:

EN ISO 374 – Protective gloves against dangerous chemicals and micro-organisms

EN 166 – Eye protection against chemicals.

EN 14605 – Protective clothing against liquid chemicals – Performance requirements for clothing with liquid-tight (Type 3) connections, including items providing protection to parts of the body only (Types PB [3]).

EN 14387 - Respiratory protective devices – Gas filter(s) and combined filter(s) - Requirements, testing, marking

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) (OJ L 131, 5.5.1998, p. 11).

With respect to the "Category (ies) of users" note: "Professionals (including industrial users) means trained professionals if this is required by national legislation.

7. **THIRD INFORMATION LEVEL: INDIVIDUAL PRODUCTS IN THE META SPC 1**

7.1. **Trade name(s), authorisation number and specific composition of each individual product**

Trade name(s)		NALCO 73500			
Authorisation number		EU-0035830-0001 1-1			
Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	24 % (w/w)

7.2. **Trade name(s), authorisation number and specific composition of each individual product**

Trade name(s)			NALCO WT-407		
Authorisation number			EU-0035830-0002 1-1		
Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	24 % (w/w)

1. **META SPC 2 ADMINISTRATIVE INFORMATION**

1.1. **Meta SPC 2 identifier**

Identifier	Meta SPC 2

1.2. **Suffix to the authorisation number**

Number	1-2

1.3. **Product type(s)**

Product type(s)	PT06: Preservatives for products during storage PT11: Preservatives for liquid-cooling and processing systems PT12: Slimicides

2. **META SPC 2 COMPOSITION**

2.1. **Qualitative and quantitative information on the composition of the meta SPC 2**

Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	50 - 50 % (w/w)

2.2. **Type(s) of formulation of the meta SPC 2**

Formulation type(s)	AL Any other liquid

3. **HAZARD AND PRECAUTIONARY STATEMENTS OF THE META SPC 2**

Hazard statements	H301: Toxic IF SWALLOWED. H330: Fatal IF INHALED. H314: Causes severe skin burns and eye damage. H334: May cause allergy or asthma symptoms or breathing difficulties IF INHALED. H317: May cause an allergic skin reaction. H410: Very toxic to aquatic life with long lasting effects. EUH071: Corrosive to the respiratory tract.
Precautionary statements	P260: Do not breathe vapours. P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P271: Use only outdoors or in a well-ventilated area. P272: Contaminated work clothing should not be allowed out of the workplace. P273: Avoid release to the environment. P280: Wear gloves/protective clothing/eye protection/face protection. P284: [In case of inadequate ventilation] wear respiratory protection. P301+P330+P331: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. P310: Immediately call a POISON CENTER or doctor/physician. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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. P363: Wash contaminated clothing before reuse. P391: Collect spillage. P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up. P501: Dispose of contents to a hazardous waste disposal service in accordance with the statutory regulations. P501: Dispose of container to a hazardous waste disposal service in accordance with the statutory regulations.

4. **AUTHORISED USE(S) OF THE META SPC**

4.1. **Use description**

Table 1

Preservation of detergents and cleaning fluids and raw materials thereof

Product type	PT06: Preservatives for products during storage
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of water-based surfactants, detergents and cleaning fluids such as (but not limited to) laundry products, laundry softener, liquid dishwashing products, hard surface cleaners and raw materials for use in detergent and cleaning applications and other uses of defoamers, degreasers and surfactants in for paper, leather and textile and other industries
Application method(s)	Method: single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture.
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (50-1 958 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (100-1 958 mg of product/kg matrix) For curative use against; Bacteria & Yeasts: 62,5-979 mg/kg a.s. with a contact time of 2 days. (125-1 958 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 3 days. (1 000-1 958 mg of product/kg matrix) Number and timing of application: Single application
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.1.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.1.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

See section 6 for the full reference to European standards and Council Directive.

4.1.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.1.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.1.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.2. **Use description**

Table 2

Preservation of wax and polymer emulsions and raw materials thereof

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use outdoor use Preservative for water-based polymer emulsions (for instance polishes, car polishes, water repellents, wax emulsions and waxes)
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (50-1 958 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (100-1 958 mg of product/kg matrix) For curative use against: bacteria & yeasts: 62,5- 979 mg/kg a.s. with a contact time of 48 hours. (125-1 958 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 3 days (1 000-1 958 mg of product/kg) Number and timing of application: Single application
Category(ies) of users	industrial professional
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.2.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.2.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Re-entry is only permitted once the air concentration of the a.s. has dropped below the reference value [AEC inhalation of 0.0106 mg/m^3].

See section 6 for the full reference to European standards and Council Directive.

4.2.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.2.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.2.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.3. **Use description**

Table 3

Preservation of water-based products used in the paper industry

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of water-based additives for the production of paper (For instance inorganic slurries, detergents, organic dispersions, polymers, pigments, inks, cellulose, starch, glues and their raw materials and pulp) Preservation of on-site made preparations or additives such as inorganic slurries or dyes solutions being used in the wet-end of paper machines.
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (50-1 958 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 10-979 mg/kg a.s. (20-1 958 mg of product/kg matrix) For curative use against bacteria, yeasts 62,5-979 mg/kg a.s. with a contact time of 2 days. (125-1 958 mg of product/kg matrix). Fungi: 500-979 mg a.s./kg with a contact time of 7 days (1 000-1 958 mg of product/kg matrix) Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.3.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.3.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling of undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures must be considered by preference (personal protection measures shall not be permanent measures).

Handling of preserved product:

Products must not be used for direct preservation of aqueous pulp mixtures (cellulose and additives) intended to be placed on the market for use in systems without automatic pumping and maintenance cleaning processes.

If not used in systems with automatic pumping and maintenance cleaning processes:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

See section 6 for the full reference to European standards and Council Directive.

4.3.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.3.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.3.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.4. **Use description**

Table 4

Preservation of paints and raw materials thereof

Product type	PT06: Preservatives for products during storage
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use outdoor use Preservation of paints and coatings and raw materials for the production of paints, plastic and glues (for instance pigments, polymer and pigment dispersions, and inorganic slurries used as fillers)
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture
Application rate(s) and frequency	Application Rate: For preventive use against bacteria until opening: 25-979 mg/kg a.s. (50-1 958 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 10-979 mg/kg a.s. (20-1 958 mg of product/kg matrix) Curative use against Bacteria, yeasts: 25-979 mg/kg a.s. with a contact time of 7 days, (50-1 958 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 7 days (1 000-1 958 mg of product/kg matrix) Number and timing of application: One time dosage

Category(ies) of users	industrial professional
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.4.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.4.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling of undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

The product must not be added to paints and coatings which are applied by spraying.

See section 6 for the full reference to European standards and Council Directive.

4.4.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.4.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.4.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.5. **Use description**

Table 5

Preservation of auxiliaries used in leather and textile industry

Product type	PT06: Preservatives for products during storage
Target organism(s) (including development stage)	Common name: bacteria Common name: yeasts Common name: fungi
Field(s) of use	indoor use Preservation of additives for the production of leather and textile e.g. leather re-fattening agents, pigment and polymer dispersions.
Application method(s)	Method: Single addition to containers and vessels Detailed description: Single dose of product to the chemical mixture in vessels or added to drums, canisters etc. via pumps and dosing lines during manufacture
Application rate(s) and frequency	Application Rate: For preventive use against bacteria: 25-979 mg/kg a.s. (50-1 958 mg of product/kg matrix) For preventive use against bacteria in short term preservation (2-6 weeks): 50-979 mg/kg a.s. (100-1 958 mg of product/kg matrix) For curative use against bacteria and yeasts : 62,5-979 mg/kg a.s. with a contact time of 2 days. (125-1 958 mg of product/kg matrix). Fungi: 500-979 mg/kg a.s. with a contact time of 7 days. (1 000-1 958 mg of product/kg matrix) Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.5.1. *Use-specific instructions for use*

For the control of bacteria, yeasts and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.5.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

Handling of undiluted product:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Handling of preserved product:

Products must not be used for preservation of leather/textile additives intended for uses where wet hides or wet textiles are not handled automatically and where for waste water treatment industry standards according to BAT are not met.

If not used in automated closed system:

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

The use of protective coveralls (at least type 3, EN 14605, coveralls material to be specified by the authorisation holder within the product information) when handling wet hides or wet textiles is recommended.

See section 6 for the full reference to European standards and Council Directive.

4.5.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.5.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.5.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.6. **Use description**

Table 6

Preservation of water in liquid-cooling and processing systems

Product type	PT11: Preservatives for liquid-cooling and processing systems
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: Legionella - pneumophila
Field(s) of use	indoor use outdoor use Prevention of microbial growth in cooling water in recirculating systems (maximum blowdown flowrate 2 m^3/h) which may affect process efficiency (heat exchange), materials degradation, filter plugging, and hygiene conditions.
Application method(s)	Method: Regular addition to the water system Detailed description: Slug doses of product to the water system via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: For closed system: For curative use against bacteria and Legionella sp.: 24-250 mg/l a.s. (48-500 of mg product /l) with a contact time of 1 hour for bacteria and 3 hours for Legionella sp. For preventive use against bacteria and Legionella sp.: 50-250 mg/l a.s(100-500 mg of product/l) For small open recirculating system: For curative use against bacteria and Legionella sp.: 24-50 mg/l a.s. (48-100 mg of product/l) with a contact time of 1 hour for bacteria and 3 hours for Legionella sp. For preventive use against bacteria and Legionella sp.: 50 mg/l a.s (100 mg of product/l) Number and timing of application: For closed system: Maximum frequency 1 dose per day For small open recirculating system: 1-3 doses per week
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.6.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.6.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Application of the product is restricted to cooling systems with a maximum blow down flowrate of 2 m^3/h. Waste water must be discharged to the municipal sewer, purified in an on-site industrial sewage treatment plant including a biological treatment step, or directly to surface water via a settling pond that allows a minimum hydraulic retention time of 105 days. The flow rate of the receiving fresh water body must be sufficient to achieve a dilution of at least 200 times.

The interval between the last dose and system drainage should be at least 36 hrs.

See section 6 for the full reference to European standards and Council Directive.

4.6.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.6.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.6.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.7. **Use description**

Table 7

Preservation of hydrotesting fluids in offshore oil field applications

Product type	PT11: Preservatives for liquid-cooling and processing systems
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore Preservation of hydrotesting fluids in oil field applications to prevent microbially induced deterioration and corrosion.
Application method(s)	Method: Single addition to the testing water Detailed description: Single dose of product to the testing water via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: For curative use: 12,5-2 000 mg/l a.s. (25-4 000 mg of product/l) with a contact time of 4 hours. Number and timing of application: One time dosage
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.7.1. *Use-specific instructions for use*

For the control of bacteria for spoilage, deterioration, gas evolution, odour, pH/viscosity changes, disintegration of formulations and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.7.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the hydrotesting fluid. This concentration can be achieved either by slow release and/or long retention times resulting in sufficient degradation of glutaraldehyde and/orby dilution with unpolluted wate, and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Hydrotesting water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

If small volumes have to be disposed of or if it is not possible to reduce the concentration to 0,2 mg/l, the fluid can be released to seawater directly by reducing the blowdown rate to allow sufficient dilution in seawater. The required reduction is locational and depends strongly on e.g. flow velocity.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site.

If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.7.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.7.4. Where specific to the use, the instructions for safe disposal of the product and its packaging

Please refer to General directions for use.

4.7.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.8. **Use description**

Table 8

Preservation of production and injection water in offshore oilfield applications

Product type	PT11: Preservatives for liquid-cooling and processing systems
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore (Produced) Water (re-) injection systems in water treatment units, in the produced water system, in gas/crude production, transmission and storage systems, and during pipeline pigging and scraping operations to prevent microbially induced deterioration and corrosion
Application method(s)	Method: Addition to vessels, tanks, pipelines etc Detailed description: — addition of product to the water phases via automated pumps and dosing lines
Application rate(s) and frequency	Application Rate: • 12,5-750 mg a.s./l water (25-1500 mg of product/l water) • for direct preservation of produced water discharged: 12,5-130 mg a.s./l water (25-260 mg of product/l water) Number and timing of application: — For injection water and production water re-injection, pipeline and storage tank uses: — Add 25-1500 mg of 50% glutaraldehyde solution per liter water (0,001-0,075% a.s.) once per week with a dosing time of 1-6 hours or — 25-1500 mg of 50% glutaraldehyde solution per liter water daily over 2 hours. — Dose rate max. 1 500 mg/l of 50% glutaraldehyde solution per liter water daily with a dosing time of 1 hour or — max. 1 500 mg/l of 50% glutaraldehyde solution weekly with a dosing time of 2 hours or — max. 1 200 mg/l of 50% glutaraldehyde solution every two weeks for 6 hours or other dosing regimens resulting in same or lower daily average concentrations.

	— For produced water intended to be disposed to the sea: — dose min. 25 mg/l - max. 36 mg/l of 50% glutaraldehyde solution daily with a dosing time of 2 hours or — 25 mg/l – max 260 mg/l of 50 % glutaraldehyde solution weekly with a dosing time of two hours or other dosing regimens resulting in the same or lower daily average concentrations. Contact time of minimum 24 hours should be observed before discharge.
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.8.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, pH/viscosity changes, disintegration of formulations, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the matrix and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.8.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the produced water. This concentration can be achieved either by slow release and/or long retention times resulting in degradation of glutaraldehyde and/or by dilution and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or addition of sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Produced water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

See section 6 for the full reference to European standards and Council Directive.

4.8.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.8.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.8.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.9. **Use description**

Table 9

Slimicide for hydrotesting fluids in offshore oilfield applications

Product type	PT12: Slimicides
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore To avoid microbially induced corrosion and spoilage by destroying biofilm in pipelines, vessels, boilers etc. during pressure tests after construction or maintenance
Application method(s)	Method: Single addition to the testing water Detailed description: Single dose of product to the testing water via automated pumps and dosing lines

Application rate(s) and frequency	Application Rate: For curative use: 12,5-2 000 mg a.s/l water (25-4 000 mg of product/l water). Number and timing of application: Single addition to the fluids, allow a minimal contact time of 24 hours (shut-in) before discharge.
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.9.1. *Use-specific instructions for use*

For the control of bacteria for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.9.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the hydrotesting fluid. This concentration can be achieved either by slow release and/or long retention times resulting in sufficient degradation of glutaraldehyde and/or by dilution with unpolluted water, and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Hydrotesting water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

If small volumes have to be disposed of or if it is not possible to reduce the concentration to 0,2 mg/l, the fluid can be released to seawater directly by reducing the blowdown rate to allow sufficient dilution in seawater. The required reduction is locational and depends strongly on e.g. flow velocity.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site.

If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.9.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.9.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.9.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.10. **Use description**

Table 10

Slimicide for production and injection water in offshore oilfield applications

Product type	PT12: Slimicides
Target organism(s) (including development stage)	Common name: bacteria
Field(s) of use	outdoor use offshore To avoid microbially induced corrosion and spoilage by destroying biofilm in (produced) water (re–) injection systems in water treatment units, in the produced water system, in gas/crude production, transmission and storage systems and during pipeline pigging and scraping operations.
Application method(s)	Method: Single addition to the testing water Detailed description: — single dose of product to the testing water via automated pumps and dosing lines

Application rate(s) and frequency	Application Rate: • 12,5-750 mg a.s/l water (25-1500 mg of product/l water) • for direct preservation of produced water discharged: 12,5-130 mg a.s./l water (25-260 mg of product/l water) Number and timing of application: — For injection water and production water re-injection, pipeline and storage tank uses: — Add 25-1500 mg of 50% glutaraldehyde solution per liter water (0,001-0,075% a.s.) once per week with a dosing time of 1-6 hours or — 25-1500 mg 50% glutaraldehyde solution per liter water daily over 2 hours. — Dose rate max. 1 500 mg/l 50% glutaraldehyde solution per liter water daily with a dosing time of 1 hour or — max. 1 500 mg/l 50% glutaraldehyde solution weekly with a dosing time of 2 hours or — max. 1 200 mg/l 50% glutaraldehyde solution every two weeks for 6 hours or other dosing regimens resulting in same or lower daily average concentrations. — For produced water intended to be disposed to the sea: — dose min. 25 mg/l - max. 36 mg/l 50% glutaraldehyde solution daily with a dosing time of 2 hours or — 25 mg/l – max 260 mg/l 50% glutaraldehyde solution weekly with a dosing time of two hours or other dosing regimens resulting in the same or lower daily average concentrations. Contact time of minimum 24 hours should be observed before discharge.
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.10.1. *Use-specific instructions for use*

For the control of bacteria responsible for spoilage, deterioration, gas evolution, odour, pH/viscosity changes, disintegration of formulations, slime, and corrosion. The product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.10.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

Wear chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent for connecting/disconnecting intermediate bulk containers (glove material to be specified by the authorisation holder within the product information).

If discharged into seawater 0,2 mg/L glutaraldehyde must not be exceeded in the produced water. This concentration can be achieved either by slow release and/or long retention times resulting in degradation of glutaraldehyde and/or by dilution and/or by addition of sodium bisulphite at pH 5 (release after at least 20 minutes) or addition of sodium hydroxide to pH 12 (release after at least 10-16 hours) as degradation aids. Produced water up to 750 mg/L glutaraldehyde can be used for re-injection. Run lab test to determine the soiling dependent dosage and degradation rate in use.

See section 6 for the full reference to European standards and Council Directive.

4.10.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.10.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.10.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.11. **Use description**

Table 11

Slimicide for paper industry, wet end

Product type	PT12: Slimicides
Target organism(s) (including development stage)	Common name: bacteria Common name: fungi
Field(s) of use	indoor use For use as paper slimicide during continuous paper production, for slime control/prevention in process water and for short term protection of wet stock during machine shut down.
Application method(s)	Method: Addition to vessels, tanks, circuits etc. Detailed description: Automatic addition of product into the white water circuit, head box or machine chest via pumps and dosing lines
Application rate(s) and frequency	Application Rate: • For curative use by shock dose: bacteria: 15-200 mg a.s./l (30-400 mg of product/l) Contact time: 3 hours fungi: 100-200 mg a.s./l (200-400 mg of product/l) Contact time: 24 hours • For preventive use by intermittent dosage against bacteria: 15-150 mg a.s./l (30-300 mg of product/l) Number and timing of application: Single dosage over 1 hour or repeat every 6-8 hours (intermittent dosage)
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.11.1. *Use-specific instructions for use*

For the control of bacteria and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally. The lowest effective dose should be used.

4.11.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

If not used in systems with automatic pumping and maintenance cleaning processes:

chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

Ensure low level of containment.

Application is only allowed in paper factories that comply with the Industrial Emission Directive 2010/75/EU where wastewater is purified in an on-site industrial sewage treatment plant including a biological treatment step in accordance to the Best Available Techniques (BAT) as prescribed in the BAT-reference document (BREF) for the production of pulp, paper and board. The effluent must be diluted at least 200 times. Paper factories that are exempted from the Industrial Emission Directive must discharge their wastewater to the municipal sewer.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site. If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.11.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.11.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.11.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

4.12. **Use description**

Table 12

Slimicide for paper industry, paper de-inking

Product type	PT12: Slimicides
Where relevant, an exact description of the authorised use	
Target organism(s) (including development stage)	Common name: bacteria Common name: fungi
Field(s) of use	indoor use The control of slime and microbial release of catalase enzyme interfering with the de-inking process during paper recycling.
Application method(s)	Method: Addition to vessels, tanks, circuits etc. Detailed description: Automatic addition of product into the white water circuit, head box or machine chest via pumps and dosing lines
Application rate(s) and frequency	Application Rate: For preventive use against bacteria: 15-125 mg a.s./l water (30-250 mg of product/l) For curative use against bacteria and fungi: shock dose as bactericide: 15-125 mg a.s./l water (30-250 mg of product/l) with a contact time of 3 hours. shock dose as fungicide: 100-125 mg a.s./l water (200-250 mg of product/l) with a contact time of 24 hours. Number and timing of application: up to 4 times per day lasting 30 minutes
Category(ies) of users	industrial
Pack sizes and packaging material	230-500 kg HDPE drums 20-100 kg HDPE pails 50-60 kg stainless steel/HPDE inliner drums 1 000-2 000 kg HDPE IBCs

4.12.1. *Use-specific instructions for use*

For the control of bacteria and fungi responsible for spoilage, deterioration, gas evolution, odour, colour/pH/viscosity changes, disintegration of formulations, slime, and corrosion. Product should be added directly to the water phase where adequate mixing will ensure quick dissolution. In hot process, allow the temperature to fall below 40 °C prior to addition.

The dose strongly depends on the formulation and intended use of the matrix to which the preservative is added. Therefore, consult the manufacturer of the preservative product, to determine the dosage requirements for the specific matrix to be preserved or determine the dosage experimentally.

4.12.2. *Use-specific risk mitigation measures*

The following personal protective equipment is mandatory. This is without prejudice to the application by employers of Council Directive 98/24/EC and other Union legislation in the area of health and safety at work:

For all procedures where undiluted biocidal product is openly handled (such as mixing and loading, entering pumps into drums, repairing pumps or connecting lines) the following risk mitigation measures must be followed, unless they can be replaced by technical and/or organisational measures:

— Use of respiratory protective equipment (RPE) providing a protection factor of at least 10 according to EN 14387 or equivalent is mandatory. At least a powered air purifying respirator with helmet/hood/mask (TH1/TM1), or a full mask with combination filter gas/P2 is required (filter Type A/ Type A-P2) to be specified by the authorisation holder within the product information). The user must be trained in the correct use of the prescribed RPE.

— Wear protective chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

— The use of eye protection according to EN 166 or equivalent or face protection during handling of the product is mandatory.

— Wear suitable protective footwear against chemicals according to EN 13832 or equivalent when applying the product.

Technical and organisational protection measures have to be considered by preference (personal protection measures shall not be permanent measures).

If not used in systems with automatic pumping and maintenance cleaning processes:

chemical resistant gloves meeting the requirements of European Standard EN 374 or equivalent during product handling phase (glove material to be specified by the authorisation holder within the product information).

— Wear a protective coverall (at least type 3) according to EN 14605 or equivalent which is impermeable for the biocidal product (coverall material to be specified by the authorisation holder within the product information).

Application is only allowed in paper factories that comply with the Industrial Emission Directive 2010/75/EU where wastewater is purified in an on-site industrial sewage treatment plant including a biological treatment step in accordance to the Best Available Techniques (BAT) as prescribed in the BAT-reference document (BREF) for the production of pulp, paper and board. The effluent must be diluted at least 200 times. Paper factories that are exempted from the Industrial Emission Directive must discharge their waste water to the municipal sewer.

To avoid the development of resistance: in addition to the requirements in the general instructions for use, check the efficacy of the product on site. If needed, causes of reduced efficacy must be investigated to ensure that there is no resistance or to identify potential resistance.

See section 6 for the full reference to European standards and Council Directive.

4.12.3. *Where specific to the use, the particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment*

Please refer to General directions for use.

4.12.4. *Where specific to the use, the instructions for safe disposal of the product and its packaging*

Please refer to General directions for use.

4.12.5. *Where specific to the use, the conditions of storage and shelf-life of the product under normal conditions of storage*

Please refer to General directions for use.

5. **GENERAL DIRECTIONS FOR USE OF THE META SPC 2**

5.1. **Instructions for use**

See *Use-specific instructions for use* per use

5.2. **Risk mitigation measures**

See *Use-specific risk mitigation measures* per use

5.3. **Particulars of likely direct or indirect effects, first aid instructions and emergency measures to protect the environment**

Likely direct or indirect effects may include: Skin and eye contact: Irritation to severe burns of the skin and eyes. May induce eye lacrimation, skin sensitization and/or allergic dermatitis. Mouth contact/ingestion: Irritation to corrosion of the gastrointestinal tract. May include nausea, vomiting, ulceration of the esophagus and/or stomach with subsequent perforation, hematemesis and/or internal bleeding. Inhalation/aspiration: Irritation to corrosion of the respiratory tract. May include coughing, rhinitis, coryza, epistaxis, pulmonary oedema, bronchospasm, respiratory distress and/ or asthma. Other clinical manifestations may include; headache, tachycardia, palpitations, hypotension and depression of the CNS.

First Aid:

IF INHALED: Move to fresh air and keep at rest in a position comfortable for breathing. Immediately call 112/ ambulance for medical assistance.

Information to Healthcare personnel/doctor:

Immediately initiate life support measures if needed, thereafter call a POISON CENTRE.

IF SWALLOWED: If conscious: Immediately rinse mouth. Give something to drink, if exposed person is able to swallow. Do NOT induce vomiting. Keep at rest in a position comfortable for breathing. Call 112 /ambulance for medical assistance.

Information to Healthcare personnel/doctor: Immediately initiate life support measures, thereafter call a POISON CENTRE.

IF ON SKIN: Immediately wash skin with plenty of water. Thereafter take off all contaminated clothing and wash it before reuse. Continue to wash the skin with water for 15 minutes. Call a POISON CENTRE or a doctor.

IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Call 112/ambulance for medical assistance.

5.4. **Instructions for safe disposal of the product and its packaging**

Incinerate in suitable incineration plant, observing local authority regulations. Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.

5.5. **Conditions of storage and shelf-life of the product under normal conditions of storage**

Store in a well ventilated place. Keep container tightly closed.

Keep at temperature not exceeding 40°C.

Shelf-life: 24 months

6. **OTHER INFORMATION**

The full titles of the EN standards referenced in the Risk mitigation measures are:

EN ISO 374 – Protective gloves against dangerous chemicals and micro-organisms

EN 166 – Eye protection against chemicals.

EN 14605 – Protective clothing against liquid chemicals – Performance requirements for clothing with liquid-tight (Type 3) connections, including items providing protection to parts of the body only (Types PB [3]).

EN 14387 - Respiratory protective devices – Gas filter(s) and combined filter(s) - Requirements, testing, marking

Council Directive 98/24/EC of 7 April 1998 on the protection of the health and safety of workers from the risks related to chemical agents at work (fourteenth individual Directive within the meaning of Article 16(1) of Directive 89/391/EEC) (OJ L 131, 5.5.1998, p. 11).

With respect to the "Category (ies) of users" note: "Professionals (including industrial users) means trained professionals if this is required by national legislation.

7. **THIRD INFORMATION LEVEL: INDIVIDUAL PRODUCTS IN THE META SPC 2**

7.1. **Trade name(s), authorisation number and specific composition of each individual product**

Trade name(s)			Nalco 7634		
Authorisation number			EU-0035830-0003 1-2		
Common name	IUPAC name	Function	CAS number	EC number	Content (%)
Glutaraldehyde		Active substance	111-30-8	203-856-5	50 % (w/w)