

Safety Data Sheet dated 9/9/2016, version 3

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking**

1.1. Product identifier

Mixture identification

Trade name: RATIO BK-1

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

Recommended use:

Detergent for hard surfaces.

Professional use (SU22) - Products for washing and cleaning (PC35)

Uses advised against:

Different uses than recommended. Do not use in combination with other products.

1.3. Details of the supplier of the safety data sheet

Manufacturer:

SUTTER INDUSTRIES s.p.a. - Società con Unico Socio

15060 Borghetto Borbera (AL) Italia

Tel. +39 0143 631.1

Competent person responsible for the safety data sheet:

regulatory.affairs@sutter.it

1.4. Emergency telephone number


+39 0143 631.1 mon-fri 9.00/17.00


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**SECTION 2: Hazards identification**

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP)

 Danger, Skin Corr. 1A, Causes severe skin burns and eye damage.

 Danger, Eye Dam. 1, Causes serious eye damage.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H314 Causes severe skin burns and eye damage.

Precautionary statements:

P280 Wear eye protection.

P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/ 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.

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P310 Immediately call a POISON CENTER or doctor/physician.

Special Provisions:

EUH210 Only for professional use. Safety data sheet available on request.

Contents

2-PROPYLHEPTANOL ETHOXYLATED PROPOXYLATED  
FORMIC ACID

Product contents:

non-ionic surfactants

< 5 %

The product also contains: Perfumes

Allergens: D-LIMONENE

Preservatives:

Special provisions according to Annex XVII of REACH and subsequent amendments:

None

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

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### SECTION 3: Composition/information on ingredients

3.1. Substances

Not Applicable, the product is a mixture.

Not applicable


3.2. Mixtures

Hazardous components within the meaning of the CLP regulation and related classification:

>= 12.5% - < 15% SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID

REACH No.: 01-2119488633-28, Index number: 016-026-00-0, CAS: 5329-14-6, EC:  
226-218-8

 3.3/2 Eye Irrit. 2 H319

 3.2/2 Skin Irrit. 2 H315

4.1/C3 Aquatic Chronic 3 H412


>= 1% - < 3% FORMIC ACID

REACH No.: 01-2119491174-37, Index number: 607-001-00-0, CAS: 64-18-6, EC: 200-579-1

 2.6/3 Flam. Liq. 3 H226


 3.2/1A Skin Corr. 1A H314

 3.1/3/Inhal Acute Tox. 3 H331

 3.1/4/Oral Acute Tox. 4 H302

>= 1% - < 3% 2-PROPYLHEPTANOL ETHOXYLATED PROPOXYLATED

CAS: 166736-08-9

 3.1/4/Oral Acute Tox. 4 H302

 3.3/1 Eye Dam. 1 H318

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#### **SECTION 4: First aid measures**

##### 4.1. Description of first aid measures

In case of skin contact:

Immediately take off all contaminated clothing.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Remove contaminated clothing immediately and dispose off safely.

After contact with skin, wash immediately with soap and plenty of water.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do NOT induce vomiting.

In case of Inhalation:

Remove casualty to fresh air and keep warm and at rest.

##### 4.2. Most important symptoms and effects, both acute and delayed

Acute effects:

Severe skin and eye irritation for contact.

Irritation interior system if swallowed.

Until revision date of this document, are unknown chronic effects from the mixture contact with skin, eyes, inhalation, ingestion.

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

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#### **SECTION 5: Firefighting measures**

##### 5.1. Extinguishing media

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Extinguishing media which must not be used for safety reasons:

None in particular.

##### 5.2. Special hazards arising from the substance or mixture

The product does not contain ingredients classified as explosive according to Regulation 1272/2008/EC (CLP).

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

##### 5.3. Advice for firefighters

Use suitable breathing apparatus .

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

The mixture does not contain ingredients classified as explosive according to EC Regulation 1272/2008 (CLP).

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#### **SECTION 6: Accidental release measures**

##### 6.1. Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.

Remove all sources of ignition.

Remove persons to safety.

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- See protective measures under point 7 and 8.
- 6.2. Environmental precautions  
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.  
Retain contaminated washing water and dispose it.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.  
Suitable material for taking up: absorbing material, organic, sand
- 6.3. Methods and material for containment and cleaning up  
Wash with plenty of water. To converge the product in containment tanks.
- 6.4. Reference to other sections  
See also section 8 and 13

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### SECTION 7: Handling and storage

- 7.1. Precautions for safe handling  
Avoid contact with skin and eyes, inhalation of vapours and mists.  
Don't use empty container before they have been cleaned.  
Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.  
Contaminated clothing should be changed before entering eating areas.  
Do not eat or drink while working.  
See also section 8 for recommended protective equipment.
- 7.2. Conditions for safe storage, including any incompatibilities  
Store in area dedicated to acid products, keep away from alkalis and chlorine based oxidants.  
Store away from sunlight.  
Store in a cool and well ventilated place.  
Do not store in open or unlabeled containers.  
Keep away from food, drink and feed.  
Incompatible materials:  
See section 10.  
Instructions as regards storage premises:  
Adequately ventilated premises.
- 7.3. Specific end use(s)  
None in particular, see paragraph 1.2

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### SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters  
Until the revision date of this document, no experimental data are available for the mixture.  
Below, listed occupational exposure limits, if available, for the components listed in paragraph 3.2.  
FORMIC ACID - CAS: 64-18-6  
EU - LTE(8h): 9 mg/m<sup>3</sup>, 5 ppm - Notes: Bold-type: Indicative Occupational Exposure Limit Values [2,3] and Limit Values for Occupational Exposure [4] (for references see bibliography)  
ACGIH - LTE(8h): 5 ppm - STE: 10 ppm - Notes: URT, eye, and skin irr  
DNEL Exposure Limit Values  
Until the revision date of this document, no experimental data are available for the mixture.  
Below, listed the DNEL exposure limits, if available, for the components listed in paragraph 3.2.  
SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID - CAS: 5329-14-6  
Worker Industry: 7.5 mg/m<sup>3</sup> - Consumer: 1.85 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects  
Consumer: 1.06 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects  
FORMIC ACID - CAS: 64-18-6

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Worker Industry: 9.5 mg/m<sup>3</sup> - Consumer: 3 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects  
Consumer: 9.5 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Short Term, systemic effects

#### PNEC Exposure Limit Values

Until the revision date of this document, no experimental data are available for the mixture. Below, listed the PNEC exposure limits, if available, for the components listed in paragraph 3.2.

SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID - CAS: 5329-14-6

Target: Microorganisms in sewage treatments - Value: 200 mg/l

Target: Fresh Water - Value: 0.3 mg/l

Target: Marine water - Value: 0.03 mg/l

Target: Marine water sediments - Value: 0.03 mg/kg

Target: Air - Value: 0.3 mg/l

FORMIC ACID - CAS: 64-18-6

Target: Marine water - Value: 0.2 mg/l

Target: Fresh Water - Value: 2 mg/l

Target: Marine water sediments - Value: 1.34 mg/kg

Target: Freshwater sediments - Value: 13.4 mg/kg

Target: Microorganisms in sewage treatments - Value: 7.2 mg/l

#### 8.2. Exposure controls

##### Eye protection:

Use close fitting safety goggles, don't use eye lens.(EN 166)

##### Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton (EN 14605 in case of splashes or EN 13982 in case of dust)

##### Protection for hands:

Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber. (EN 388 - EN 374 protection factor 6, corresponding to a breakthrough time >480 minutes).

Due to great diversity of types, observe the operating instructions of the manufacturer with respect to substances listed in paragraph 3.2.

##### Respiratory protection:

Not needed for normal use.

##### Thermal Hazards:

The product is not flammable or explosive - see paragraph 2.1. The product contains no explosive components.

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

##### Environmental exposure controls:

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

See also section 6.2.

##### Appropriate engineering controls:

No further technical checks suitable for your product under normal conditions.

See also section 1.2, section 7 and Exposure Scenario - Annex I of this document.

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## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| Properties             | Value               | Method:   | Notes: |
|------------------------|---------------------|-----------|--------|
| Appearance and colour: | Clear liquid, green | Visual    | --     |
| Odour:                 | Fruity              | Olfactory | --     |

|   |                |                      |   |
|---|----------------|----------------------|---|
| Odour threshold:                              | Evident        | Olfactory            | --  |
| pH:   | < 1,0          | --                   | Estimated value on chemical / physical properties of components |
| Melting point / freezing point:               | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Initial boiling point and boiling range:      | >100°C         | --                   | Estimated value on chemical / physical properties of components |
| Flash point:                                  | > 65 ° C       | --                   | Estimated value on chemical / physical properties of components |
| Evaporation rate:                             | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Solid/gas flammability:                       | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Upper/lower flammability or explosive limits: | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Vapour pressure:                              | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Vapour density:                               | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Relative density:                             | 1.095 g/ml     | Instrumental control | --  |
| Solubility in water:                          | Total          | --                   | internal tests  |
| Solubility in oil:                            | Partial        | --                   | internal tests  |
| Partition coefficient (n-octanol/water):      | < 1000         | --                   | Value estimated based on the solubility of the mixture.         |
| Auto-ignition temperature:                    | Not Relevant   | --                   | Parameter not relevant for the type of product                  |
| Decomposition temperature:                    | Not applicable | --                   | Parameter not relevant for the type of product                  |
| Viscosity:                                    | < 10 cP        | --                   | Estimated indicative value. Not viscous mixture.                |
| Explosive properties:                         | Not Relevant   | --                   | Parameter not relevant for product composition.                 |
| Oxidizing properties:                         | Not Relevant   | --                   | Parameter not relevant for product composition.                 |

## 9.2. Other information

| Properties                           | Value        | Method: | Notes:   |
|--------------------------------------|--------------|---------|--|
| Miscibility:                         | Not Relevant | --      | Parameter not relevant for the type of product |
| Fat Solubility:                      | Not Relevant | --      | Parameter not relevant for the type of product |
| Conductivity:                        | Not Relevant | --      | Parameter not relevant for the type of product |
| Substance Groups relevant properties | Not Relevant | --      | Parameter not relevant for the type of product |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

#### 10.2. Chemical stability

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

#### 10.3. Possibility of hazardous reactions

In normal conditions no dangerous reactions of the mixture

Store in area dedicated to acid products, keep away from alkalis and chlorine based oxidants.

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

See also section 7.2.

#### 10.4. Conditions to avoid

Different uses than recommended. Do not use in combination with other products. See also 1.2 and 7.2

#### 10.5. Incompatible materials

Alkalines, Chlorine based oxidising, flammable, combustible.

Store in area dedicated to acid products, keep away from alkalis and chlorine based oxidants.

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability. see also 1.2 and 7.2.

#### 10.6. Hazardous decomposition products

Until the revision date of this document, no adverse effects and symptoms to exposure of the product are known, including chemical reactivity and instability.

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## SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Toxicological information of the mixture:

Until the revision date of this document, are not available experimental toxicological data on the mixture.

For the classification of the mixture see section 2.1.

Not applicable

Toxicological information of the main substances found in the mixture:

Below are reported, if available, the toxicological information of the components listed in paragraph 3.2.

SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID - CAS: 5329-14-6

##### a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 1450 mg/kg

Test: LD50 - Route: Skin - Species: Rat > 2000 mg/kg

##### b) skin corrosion/irritation:

Test: Skin Irritant Positive

##### c) serious eye damage/irritation:

Test: Eye Irritant Positive

FORMIC ACID - CAS: 64-18-6

##### a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 730 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat = 7.4 mg/l - Duration: 4h

##### b) skin corrosion/irritation:

Test: Skin Corrosive - Route: Skin - Species: Rabbit Positive

##### c) serious eye damage/irritation:

Test: Eye Corrosive Positive

##### d) respiratory or skin sensitisation:

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- Test: Skin Sensitization Negative
- e) germ cell mutagenicity:  
Test: Mutagenesis Negative
- j) aspiration hazard:  
Test: Aspiration hazard Positive
- 2-PROPYLHEPTANOL ETHOXYLATED PROPOXYLATED - CAS: 166736-08-9
- a) acute toxicity:  
Test: LD50 - Route: Oral - Species: Rat = 300 mg/kg
- b) skin corrosion/irritation:  
Test: Skin Irritant - Route: Skin - Species: Rabbit Negative - Source: OECD 404
- c) serious eye damage/irritation:  
Test: Eye Corrosive - Species: Rabbit Positive - Source: OECD 405
- d) respiratory or skin sensitisation:  
Test: Skin or Resp. Sensitization Negative - Source: OECD 406
- e) germ cell mutagenicity:  
Test: Mutagenesis Negative - Source: Ames test
- FORMIC ACID - CAS: 64-18-6  
LD50 (RAT) ORAL: 1210 MG/KG

If not differently specified, the information required in Regulation (EU)2015/830 listed below must be considered as Not Applicable:

- a) acute toxicity;
- b) skin corrosion/irritation;
- c) serious eye damage/irritation;
- d) respiratory or skin sensitisation;
- e) germ cell mutagenicity;
- f) carcinogenicity;
- g) reproductive toxicity;
- h) STOT-single exposure;
- i) STOT-repeated exposure;
- j) aspiration hazard.

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## SECTION 12: Ecological information

### 12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment. The environmental hazard of the product are reported in Section 2.1 if applicable. Until the revision date of this document, are not available experimental data on the mixture. Below are reported, if available, the eco-toxicological information of the components listed in paragraph 3.2.

SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID - CAS: 5329-14-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 14.2 mg/l - Duration h: 96 - Notes: Pimephales promelas

Endpoint: EC50 - Species: Daphnia = 71.6 mg/l - Duration h: 48 - Notes: Daphnia Magna

Endpoint: EC50 - Species: Algae = 48 mg/l - Duration h: 72 - Notes: Desmodesmus subspicatus

FORMIC ACID - CAS: 64-18-6

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 130 mg/l - Duration h: 96 - Notes: Brachydanio rerio

Endpoint: EC50 - Species: Daphnia = 32.19 mg/l - Duration h: 48 - Notes: Daphnia magna



Endpoint: EC50 - Species: Algae = 1240 mg/l - Duration h: 72 - Notes: Selenastrum capricornutum

c) Bacteria toxicity:

Endpoint: EC10 - Species: Microorganisms / Effect on activated sludge: = 72 mg/l - Duration h: 312

Endpoint: EC20 - Species: Microorganisms / Effect on activated sludge: > 1000 mg/l - Duration h: 0.5

Endpoint: EC50 - Species: Microorganisms / Effect on activated sludge: = 46.7 mg/l - Duration h: 17 - Notes: Pseudomonas putida

2-PROPYLHEPTANOL ETHOXYLATED PROPOXYLATED - CAS: 166736-08-9

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 10 mg/l - Duration h: 96 - Notes: Brachydanio rerio

Endpoint: EC50 - Species: Daphnia > 10 mg/l - Duration h: 48 - Notes: Daphnia magna

Endpoint: EC50 - Species: Algae > 10 mg/l - Duration h: 72 - Notes: Scenedesmus subspicatus

Endpoint: EC10 - Species: Algae > 1 mg/l - Notes: Desmodesmus subspicatus

12.2. Persistence and degradability

Until the revision date of this document, are not available experimental data on the mixture. Below are reported, if available, the eco-toxicological information of the components listed in paragraph 3.2.

SULPHAMIDIC ACID; SULPHAMIC ACID; SULFAMIC ACID - CAS: 5329-14-6

Biodegradability: Readily biodegradable - Test: OECD 301B - Duration: 28 days - %: 97 - Notes: Not applicable

FORMIC ACID - CAS: 64-18-6

Biodegradability: Readily biodegradable - Test: Not applicable - Duration: 28 days - %: 100 - Notes: Not applicable

2-PROPYLHEPTANOL ETHOXYLATED PROPOXYLATED - CAS: 166736-08-9

Biodegradability: Readily biodegradable - Test: OECD 301B - Duration: 28 days - %: Not applicable - Notes: Not applicable

The surfactant(s) contained in this preparation complies with the biodegradability criteria laid down in Regulation (EC) No 648/2004 on detergents. All supporting data are kept available to the competent authorities of the Member States and will be provided to those authorities if they so request or at the request of a detergent manufacturer.

12.3. Bioaccumulative potential

Until the revision date of this document, are not available experimental data on the mixture. Below are reported, if available, the eco-toxicological information of the components listed in paragraph 3.2.

Not applicable

12.4. Mobility in soil

Until the revision date of this document, are not available experimental data on the mixture. Below are reported, if available, the eco-toxicological information of the components listed in paragraph 3.2.

Not applicable

12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

12.6. Other adverse effects

Until the revision date of this document, unknown adverse effects and symptoms towards the environment.

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## **SECTION 13: Disposal considerations**

### 13.1. Waste treatment methods

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Recover, if possible. Send to authorised disposal plants or for incineration under controlled conditions. In so doing, comply with the local and national regulations currently in force. Do not discharge into the ground or into drains.  
See also section 6

### SECTION 14: Transport information



- 14.1. UN number  
ADR-UN Number: 1760  
IATA-UN Number: 1760  
IMDG-UN Number: 1760
- 14.2. UN proper shipping name  
ADR-Shipping Name: CORROSIVE LIQUID, N.O.S. (formic acid)  
IATA-Shipping Name: CORROSIVE LIQUID, N.O.S. (formic acid)  
IMDG-Shipping Name: CORROSIVE LIQUID, N.O.S. (formic acid)
- 14.3. Transport hazard class(es)  
ADR-Class: 8  
ADR-Label: 8  
ADR - Hazard identification number: 80  
IATA-Class/Division: 8  
IATA-Label: 8  
IMDG-Class/Division: 8  
IMDG-Label: 8
- 14.4. Packing group  
ADR-Packing Group: III  
IATA-Packing group: III  
IMDG-Packing group: III
- 14.5. Environmental hazards  
ADR-Environmental Pollutant: No  
IMDG-Marine pollutant: No
- 14.6. Special precautions for user  
ADR-Subsidiary risks: -  
ADR-S.P.: 274  
ADR-Tunnel Restriction Code: E  
IATA-Passenger Aircraft: 852  
IATA-Subsidiary risks: -  
IATA-Cargo Aircraft: 856  
IATA-S.P.: -  
IATA-ERG: 8L  
IMDG-S.P.: 223 274  
IMDG-EmS: F-A , S-B  
IMDG-Subsidiary risks: -  
IMDG-Storage category: Category A  
IMDG-Storage notes: SW2  
IMDG-Segregation notes: -
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code  
Not applicable

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**SECTION 15: Regulatory information**

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture  
Dir. 98/24/EC (Risks related to chemical agents at work)  
Dir. 2000/39/EC (Occupational exposure limit values)  
Regulation (EC) n. 1907/2006 (REACH)  
Regulation (EC) n. 1272/2008 (CLP)  
Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013  
Regulation (EU) 2015/830  
Regulation (EU) n. 286/2011 (ATP 2 CLP)  
Regulation (EU) n. 618/2012 (ATP 3 CLP)  
Regulation (EU) n. 487/2013 (ATP 4 CLP)  
Regulation (EU) n. 944/2013 (ATP 5 CLP)  
Regulation (EU) n. 605/2014 (ATP 6 CLP)

Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications:

None

Where applicable, refer to the following regulatory provisions :

Regulation (EC) nr 648/2004 (detergents).  
1999/13/EC (VOC directive)

Provisions related to directive EU 2012/18 (Seveso III):

Seveso III category according to Annex 1, part 1  
None

15.2. Chemical safety assessment

No, for instructions on safe mangling you see Sections 7 and 8 and the exposure scenario - Annex I of this document.

No

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**SECTION 16: Other information**

Full text of phrases referred to in Section 3:

H319 Causes serious eye irritation.  
H315 Causes skin irritation.  
H412 Harmful to aquatic life with long lasting effects.  
H226 Flammable liquid and vapour.  
H314 Causes severe skin burns and eye damage.  
H331 Toxic if inhaled.  
H302 Harmful if swallowed.  
H318 Causes serious eye damage.

Paragraphs modified from the previous revision:

SECTION 1: Identification of the substance/mixture and of the company/undertaking  
SECTION 3: Composition/information on ingredients  
SECTION 4: First aid measures  
SECTION 5: Firefighting measures  
SECTION 7: Handling and storage  
SECTION 8: Exposure controls/personal protection  
SECTION 9: Physical and chemical properties  
SECTION 10: Stability and reactivity  
SECTION 11: Toxicological information  
SECTION 12: Ecological information  
SECTION 14: Transport information  
SECTION 15: Regulatory information

The classification of the product is based on conventional calculation method.

This document was prepared by a competent person who has received appropriate training.

Main bibliographic sources:

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre,  
Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition - Van  
Nostrand Reinold

The information contained herein is based on our state of knowledge at the above-specified date. It refers solely to the product indicated and constitutes no guarantee of particular quality.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This MSDS cancels and replaces any preceding release.

|                   |  |
|-------------------|--|
| ADR:              | European Agreement concerning the International Carriage of Dangerous Goods by Road. |
| CAS:              | Chemical Abstracts Service (division of the American Chemical Society).              |
| CLP:              | Classification, Labeling, Packaging.   |
| DNEL:             | Derived No Effect Level.   |
| EC0/10/20/50/100: | Effective concentration, for 0/10/20/50/100 percent of test population.              |
| EINECS:           | European Inventory of Existing Commercial Chemical Substances.                       |
| GefStoffVO:       | Ordinance on Hazardous Substances, Germany.  |
| GHS:              | Globally Harmonized System of Classification and Labeling of Chemicals.              |
| IATA:             | International Air Transport Association.   |
| IATA-DGR:         | Dangerous Goods Regulation by the "International Air Transport Association" (IATA).  |
| ICAO:             | International Civil Aviation Organization.   |
| ICAO-TI:          | Technical Instructions by the "International Civil Aviation Organization" (ICAO).    |
| IMDG:             | International Maritime Code for Dangerous Goods.                                     |
| INCI:             | International Nomenclature of Cosmetic Ingredients.                                  |
| KSt:              | Explosion coefficient.   |
| LC0/10/20/50/100: | Lethal concentration, for 0/10/20/50/100 percent of test population.                 |
| LD0/10/20/50/100: | Lethal dose, for 0/10/20/50/100 percent of test population.                          |
| LTE:              | Long-term exposure.  |
| NOEC:             | No Observed Effect Concentration   |
| NOAEL(R)/N        | No Observed Adverse Effect Level(Repeated)/Concentration                             |
| OAEC:             |  |
| OECD:             | Organisation for Economic Co-operation and Development                               |
| PNEC:             | Predicted No Effect Concentration.   |
| RID:              | Regulation Concerning the International Transport of Dangerous Goods by Rail.        |
| STE:              | Short-term exposure.   |
| STEL:             | Short Term Exposure limit.   |
| STOT:             | Specific Target Organ Toxicity.  |
| TLV:              | Threshold Limiting Value.  |
| TWATLV:           | Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).    |
| WGK:              | German Water Hazard Class.   |



**Safety Data Sheet**  
**RATIO BK-1**



ANNEX I  
PROFESSIONAL PRODUCT – DETERGENT FOR HARD SURFACES

|   |  |
|---|--|
| <b>Title of exposure scenario</b>   |  |
| Detergent for general cleaning: Manual process.   |  |
| <b>Use description</b>  |  |
| Sector Use  | SU22 – Professional use  |
| Product Category  | PC35 – Cleaning and washing product (including solvent based products)               |
| <b>Description of activities/process considered on exposure scenario.</b>   |  |
| Dilute with water as specified on the label, if necessary.  |  |
| Use following the use instruction as specified on the label.  |  |
| Leave on.   |  |
| Rinse, if necessary.  |  |
| <b>Frequency and duration</b>   |  |
| Use phase   | - 1 time a day for daily cleaning detergents<br>- Periodical for specific detergents |
| Relevant limit values of ingredients, if available, are stated in section 8 of the SDS.   |  |
| <b>Physical appearance and concentration</b>  |  |
| Liquid. To dilute or ready to use.  |  |
| In section 2 of the SDS of product and on the label the classification of mixture is provided.  |  |
| Mixture classification is based on ingredients classification and on chemical/physical properties stated in section 9 of the SDS of product.          |  |
| <b>Use conditions</b>   |  |
| Room temperature  |  |
| Good general ventilation at workplace is sufficient.  |  |
| <b>Protection</b>   |  |
| See section 8 of the SDS of product to more information on PPE.   | Training of worker to use and maintenance of PPE is supposed.                        |
| Don't eat or drink, don't smoke.  | Avoid contact with damaged skin.   |
| No open flame.  | Do not use in combination with other products  |
| Wash hand after use.  |  |
| In case of accidental release: dilute with water and dry.   |  |
| See section 6 of the SDS in case of accidental release  |  |
| Follow use instruction as specified on the label or on technical sheet. Use good occupational hygiene practices as specified in section 7 on the SDS. |  |
| <b>Environmental measures</b>   |  |
| See section 6 of the SDS in case of accidental release  |  |
| See section 12 of the SDS for ecotoxicological information of mixture and dangerous ingredients.  |  |
| See section 13 of the SDS for disposal considerations.  |  |

Note:

SDS: Safety Data Sheet

PPE: Personal Protection Equipment