

# Safety Data Sheet

## FULCRON SUPER DEGREASER



Safety Data Sheet dated 13/9/2019, version 27

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

#### 1.1. Product identifier

Mixture identification:

Trade name: FULCRON SUPER DEGREASER  
Trade code: 34040

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

Recommended use:

Detergent/cleaner

#### 1.3. Details of the supplier of the safety data sheet

Supplier:

Arexons S.p.A.  
via Antica di Cassano, 23, 20063  
Cernusco sul Naviglio (MI), Italy

Arexons S.p.A.  
Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

Competent person responsible for the safety data sheet:

arexons@arexons.it

#### 1.4. Emergency telephone number

Arexons S.p.A.

Tel. +39 (0)2/924361 - Fax +39 (0)2/92436306

Centro Antiveleni di Pavia IRCCS- Fondazione Maugeri tel. +39 (0)382 24444 (h24; it, en)

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

In Ireland: Beaumont Hospital - National Poisons Information Centre 01 809 2166 (7days, 8:00 - 22:00)

In South Africa: Poison Information Helpline 0861 555 777

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP):

⚠ Warning, Skin Irrit. 2, Causes skin irritation.

⚠ 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:

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements:

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children.

P103 Read label before use.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

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lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER.

### Special Provisions:

None

### Contains

Laureth-7; Alcohols, C9-11-iso-, C10-rich, ethoxylated  
Sodium metasilicate pentahydrate  
2-aminoethanol

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

None

Regulation (EC) nr 648/2004 (detergents).

### Product contents:

Phosphonates

< 5 %

Non-ionic surfactants

5 - 15 %

The product also contains:      Perfumes  
Allergens:                              d-limonene

### 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

N.A.

### 3.2. Mixtures

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

>= 5% - < 7% Laureth-7; Alcohols, C9-11-iso-, C10-rich, ethoxylated

CAS: 78330-20-8

⚠ 3.1/4/Oral Acute Tox. 4 H302

⚠ 3.3/1 Eye Dam. 1 H318

>= 2% - < 3% Sodium metasilicate pentahydrate

CAS: 10213-79-3, EC: 600-279-4

⚠ 3.2/1B Skin Corr. 1B H314

⚠ 3.8/3 STOT SE 3 H335

⚠ 2.16/1 Met. Corr. 1 H290

>= 1% - < 2% 2-aminoethanol

REACH No.: 01-2119486455-28, Index number: 603-030-00-8, CAS: 141-43-5, EC: 205-483-3

⚠ 3.2/1B Skin Corr. 1B H314

⚠ 3.1/4/Oral Acute Tox. 4 H302

⚠ 3.1/4/Dermal Acute Tox. 4 H312

⚠ 3.1/4/Inhal Acute Tox. 4 H332

⚠ 3.8/3 STOT SE 3 H335

4.1/C3 Aquatic Chronic 3 H412

Specific Concentration Limits:

C >= 5%: STOT SE 3 H335

>= 0.02% - < 0.05% caustic soda

REACH No.: 02-2119457892-27, Index number: 011-002-00-6, CAS: 1310-73-2, EC: 215-185-5

⚠ 2.16/1 Met. Corr. 1 H290

⚠ 3.2/1A Skin Corr. 1A H314

Specific Concentration Limits:

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0,5% <= C < 2%: Skin Irrit. 2 H315  
0,5% <= C < 2%: Eye Irrit. 2 H319  
2% <= C < 5%: Skin Corr. 1B H314  
C >= 5%: Skin Corr. 1A H314

>= 0.005% - < 0.01% acetic acid ... %

REACH No.: 01-2119475328-30, Index number: 607-002-00-6, CAS: 64-19-7, EC: 200-580-7

◆ 2.6/3 Flam. Liq. 3 H226  
◆ 3.2/1A Skin Corr. 1A H314

Specific Concentration Limits:

10% <= C < 25%: Skin Irrit. 2 H315  
10% <= C < 25%: Eye Irrit. 2 H319  
25% <= C < 90%: Skin Corr. 1B H314  
C >= 90%: Skin Corr. 1A H314

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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.

Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap.

OBTAIN IMMEDIATE MEDICAL ATTENTION.

Wash thoroughly the body (shower or bath).

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 under any circumstances induce vomiting. OBTAIN A MEDICAL EXAMINATION IMMEDIATELY.

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

None

##### 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:

None

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#### SECTION 5: Firefighting measures

##### 5.1. Extinguishing media

Appropriate Extinguishing Media:

To carbon dioxide.

To dust.

Foam

Water spray.

Not Recommended Extinguishing Media:

Do not use direct water jets.

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

Do not inhale explosion and combustion gases.

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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.

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## SECTION 6: Accidental release measures

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

Wear personal protection equipment.

Remove persons to safety.

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.

### 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.

See also section 8 for recommended protective equipment.

Advice on general occupational hygiene:

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep away from food, drink and feed.

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

### 7.3. Specific end use(s)

None in particular

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## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

2-aminoethanol - CAS: 141-43-5

20101.11 - TWA: 7.6 mg/m<sup>3</sup>, 3 ppm

EU - TWA(8h): 2.5 mg/m<sup>3</sup>, 1 ppm - STEL: 7.6 mg/m<sup>3</sup>, 3 ppm - Notes: Skin

ACGIH - TWA(8h): 3 ppm - STEL: 6 ppm - Notes: Eye and skin irr

caustic soda - CAS: 1310-73-2

20101.10 - TWA: 2 mg/m<sup>3</sup>

ACGIH - STEL: Ceiling 2 mg/m<sup>3</sup> - Notes: URT, eye, and skin irr

acetic acid ... % - CAS: 64-19-7

EU - TWA(8h): 25 mg/m<sup>3</sup>, 10 ppm - STEL: 50 mg/m<sup>3</sup>, 20 ppm

ACGIH - TWA(8h): 10 ppm - STEL: 15 ppm - Notes: URT and eye irr, pulm func

### DNEL Exposure Limit Values

Sodium metasilicate pentahydrate - CAS: 10213-79-3

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Worker Professional: 6.22 mg/m<sup>3</sup> - Consumer: 1.55 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, systemic effects  
 Worker Professional: 1.49 mg/kg - Consumer: 0.74 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects  
 Consumer: 0.74 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects

2-aminoethanol - CAS: 141-43-5

Consumer: 2 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term, local effects

Consumer: 0.24 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)

Consumer: 3.75 mg/kg - Exposure: Human Oral - Frequency: Long Term (repeated)

Worker Professional: 3.3 mg/m<sup>3</sup> - Exposure: Human Inhalation - Frequency: Long Term (repeated)

Worker Professional: 1 mg/kg - Exposure: Human Dermal - Frequency: Long Term (repeated)

PNEC Exposure Limit Values

2-aminoethanol - CAS: 141-43-5

Target: Fresh Water - Value: 0.08 mg/l

Target: 08 - Value: 0.02 mg/l

Target: Marine water - Value: 0 mg/l

Target: Freshwater sediments - Value: 0.42 mg/kg

Target: Marine water sediments - Value: 0.04 mg/kg

8.2. Exposure controls

Eye protection:

Eye glasses with side protection.

Compliant with EN 166

Protection for skin:

protective clothing

Protection for hands:

Nitrile or Viton gloves.

Compliant with EN 374.

Respiratory protection:

Not needed for normal use.

Thermal Hazards:

None

Environmental exposure controls:

None

Appropriate engineering controls:

None

## SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Method:	Notes:
Appearance and colour:	Liquid, colourless	--	--
Odour:	Characteristic	--	--
Odour threshold:	N.A.	--	--
pH:	12	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and	>100°C	--	--

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boiling range:			
Flash point:	Not flammable	--	--
Evaporation rate:	N.A.	--	--
Solid/gas flammability:	N.A.	--	--
Upper/lower flammability or explosive limits:	N.A.	--	--
Vapour pressure:	N.A.	--	--
Vapour density:	N.A.	--	--
Relative density:	1.0370 g/cm3	--	--
Solubility in water:	Soluble	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (n-octanol/water):	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	N.A.	--	--
Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

9.2. Other information

Properties	Value	Method:	Notes:
Miscibility:	N.A.	--	--
Fat Solubility:	N.A.	--	--
Conductivity:	N.A.	--	--
Substance Groups relevant properties	N.A.	--	--

NA=not applicable

**SECTION 10: Stability and reactivity**

- 10.1. Reactivity  
Stable under normal conditions
- 10.2. Chemical stability  
Stable under normal conditions
- 10.3. Possibility of hazardous reactions  
None

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- 10.4. Conditions to avoid  
Stable under normal conditions.
- 10.5. Incompatible materials  
None in particular.
- 10.6. Hazardous decomposition products  
None.

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#### SECTION 11: Toxicological information

##### 11.1. Information on toxicological effects

Toxicological information of the product:  
FULCRON SUPER DEGREASER

a) acute toxicity

Based on available data, the classification criteria are not met

b) skin corrosion/irritation

The product is classified: Skin Irrit. 2 H315

Test: oecd 8 - Route: Skin - Species: RHE 93.3 % - Duration: 3min - Notes: non corrosivo per la pelle - Based on available data, the classification criteria are not met

Test: oecd 8 - Route: Skin - Species: RHE 57.6 % - Duration: 1h - Notes: non corrosivo per la pelle - Based on available data, the classification criteria are not met

c) serious eye damage/irritation

The product is classified: Eye Dam. 1 H318

Test: Eye Corrosive - Route: EYE - Species: BCOP 172.86

d) respiratory or skin sensitisation

Based on available data, the classification criteria are not met

e) germ cell mutagenicity

Based on available data, the classification criteria are not met

f) carcinogenicity

Based on available data, the classification criteria are not met

g) reproductive toxicity

Based on available data, the classification criteria are not met

h) STOT-single exposure

Based on available data, the classification criteria are not met

i) STOT-repeated exposure

Based on available data, the classification criteria are not met

j) aspiration hazard

Based on available data, the classification criteria are not met

Toxicological information of the main substances found in the product:

Sodium metasilicate pentahydrate - CAS: 10213-79-3

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 1152-1349 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat > 2.06 g/m<sup>3</sup>

Test: LD50 - Route: Skin - Species: Rat > 5000 mg/kg

i) STOT-repeated exposure:

Test: NOAEL(C) - Route: Oral - Species: Rat 227 mg/kg

2-aminoethanol - CAS: 141-43-5

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat = 1515 mg/kg

Test: LD50 - Route: Skin - Species: Rat = 2504 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat = 1.48 mg/l - Duration: 4h



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b) skin corrosion/irritation:

Test: Eye Corrosive Positive - Notes: due to physical-chemical data (pH = 13)

Test: Skin Corrosive Positive - Notes: due to physical-chemical data (pH = 13)

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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.

Laureth-7; Alcohols, C9-11-iso-, C10-rich, ethoxylated - CAS: 78330-20-8

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish > 1 mg/l - Notes: OECD TG 203

Endpoint: EC50 - Species: Daphnia > 1 mg/l - Notes: OECD TG 202

Endpoint: EC50 - Species: Algae > 1 mg/l - Notes: OECD TG 201

Sodium metasilicate pentahydrate - CAS: 10213-79-3

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish 210 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia 1700 mg/l - Duration h: 48

2-aminoethanol - CAS: 141-43-5

a) Aquatic acute toxicity:

Endpoint: LC50 - Species: Fish = 349 mg/l - Duration h: 96

Endpoint: EC50 - Species: Daphnia = 65 mg/l - Duration h: 48

Endpoint: EC50 - Species: Algae = 2.5 mg/l - Duration h: 72

##### 12.2. Persistence and degradability

None

Laureth-7; Alcohols, C9-11-iso-, C10-rich, ethoxylated - CAS: 78330-20-8

Biodegradability: Readily biodegradable

##### 12.3. Bioaccumulative potential

Laureth-7; Alcohols, C9-11-iso-, C10-rich, ethoxylated - CAS: 78330-20-8

Bioaccumulation: Not bioaccumulative

##### 12.4. Mobility in soil

N.A.

##### 12.5. Results of PBT and vPvB assessment

vPvB Substances: None - PBT Substances: None

##### 12.6. Other adverse effects

None

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#### SECTION 13: Disposal considerations

##### 13.1. Waste treatment methods

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.

Additional disposal information:

Reuse if possible. Act in accordance with the local and national laws in force.

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#### SECTION 14: Transport information

##### 14.1. UN number

Not classified as dangerous in the meaning of transport regulations.

##### 14.2. UN proper shipping name

N.A.

##### 14.3. Transport hazard class(es)

N.A.

##### 14.4. Packing group

N.A.



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- 14.5. Environmental hazards  
ADR-Environmental Pollutant: No  
IMDG-Marine pollutant: No
- 14.6. Special precautions for user  
N.A.
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code  
No

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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)  
Regulation (EU) n. 2015/1221 (ATP 7 CLP)  
Regulation (EU) n. 2016/918 (ATP 8 CLP)  
Regulation (EU) n. 2016/1179 (ATP 9 CLP)  
Regulation (EU) n. 2017/776 (ATP 10 CLP)

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

Restrictions related to the product:

- Restriction 3
- Restriction 40

Restrictions related to the substances contained:

No restriction.

Volatile Organic compounds - VOCs = 1.60 %  
Volatile Organic compounds - VOCs = 15.98 g/Kg  
Volatile Organic compounds - VOCs = 16.57 g/l

Where applicable, refer to the following regulatory provisions :

- Directive 2012/18/EU (Seveso III)
- Regulation (EC) nr 648/2004 (detergents).
- Dir. 2004/42/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 Chemical Safety Assessment has been carried out for the mixture.

Substances for which a Chemical Safety Assessment has been carried out:

2-aminoethanol

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#### SECTION 16: Other information

Text of phrases referred to under heading 3:

- H302 Harmful if swallowed.
- H318 Causes serious eye damage.
- H314 Causes severe skin burns and eye damage.
- H335 May cause respiratory irritation.
- H290 May be corrosive to metals.

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H312 Harmful in contact with skin.  
H332 Harmful if inhaled.  
H412 Harmful to aquatic life with long lasting effects.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H226 Flammable liquid and vapour.

Hazard class and hazard category	Code	Description
Met. Corr. 1	2.16/1	Substance or mixture corrosive to metals, Category 1
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
Acute Tox. 4	3.1/4/Dermal	Acute toxicity (dermal), Category 4
Acute Tox. 4	3.1/4/Inhal	Acute toxicity (inhalation), Category 4
Acute Tox. 4	3.1/4/Oral	Acute toxicity (oral), Category 4
Skin Corr. 1A	3.2/1A	Skin corrosion, Category 1A
Skin Corr. 1B	3.2/1B	Skin corrosion, Category 1B
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
Eye Dam. 1	3.3/1	Serious eye damage, Category 1
Eye Irrit. 2	3.3/2	Eye irritation, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Paragraphs modified from the previous revision:

#### SECTION 2: Hazards identification

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008	Classification procedure
Skin Irrit. 2, H315	On basis of test data
Eye Dam. 1, H318	On basis of test data (pH)

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

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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.
ATE:	Acute Toxicity Estimate
ATEmix:	Acute toxicity Estimate (Mixtures)
CAS:	Chemical Abstracts Service (division of the American Chemical Society).
CLP:	Classification, Labeling, Packaging.
DNEL:	Derived No Effect Level.
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.
LC50:	Lethal concentration, for 50 percent of test population.
LD50:	Lethal dose, for 50 percent of test population.
NA:	Not applicable
PNEC:	Predicted No Effect Concentration.
RID:	Regulation Concerning the International Transport of Dangerous Goods by Rail.
STEL:	Short Term Exposure limit.
STOT:	Specific Target Organ Toxicity.
TLV:	Threshold Limiting Value.
TWA:	Time-weighted average
WGK:	German Water Hazard Class.

# Exposure Scenario, 13/09/2019

Substance identity	
Chemical name	sodio metasilicato pentaidrato
CAS No.	10213-79-3
EINECS No.	600-279-4

## Table of contents

1. **ES 1** Consumer use; Various products (PC9b, PC9a, PC1, PC39, PC14)
2. **ES 2** Widespread use by professional workers; Various products (PC39, PC35)

## 1. ES 1 Consumer use; Various products (PC9b, PC9a, PC1, PC39, PC14)

### 1.1 TITLE SECTION

<b>Exposure Scenario name</b>	Consumer goods
<b>Date - Version</b>	09/07/2019 - 1.0
<b>Life Cycle Stage</b>	Consumer use
<b>Main user group</b>	Consumer uses
<b>Sector(s) of use</b>	Consumer uses (SU21)
<b>Product Categories</b>	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Adhesives, sealants (PC1) - Cosmetics, personal care products (PC39) - Metal surface treatment products (PC14) - Non-metal surface treatment products (PC15) - Hydraulic fluids (PC17) - Leather treatment products (PC23) - Lubricants, greases, release products (PC24) - Paper and board treatment products (PC26) - Photo-chemicals (PC30) - Semiconductors (PC33) - Textile dyes and impregnating products (PC34)

### Consumer Contributing Scenario

<b>CS1 Consumer</b>	PC9b - PC9a - PC1 - PC39 - PC14 - PC15 - PC17 - PC23 - PC24 - PC26 - PC30 - PC33 - PC34
<b>CS2 Handwash (pretreatment) of clothes</b>	PC35

### 1.2 Conditions of use affecting exposure

#### 1.2. CS1: Consumer Contributing Scenario: Consumer (PC9b, PC9a, PC1, PC39, PC14, PC15, PC17, PC23, PC24, PC26, PC30, PC33, PC34)

<b>Product Categories</b>	Fillers, putties, plasters, modelling clay - Coatings and paints, thinners, paint removers - Adhesives, sealants - Cosmetics, personal care products - Metal surface treatment products - Non-metal surface treatment products - Hydraulic fluids - Leather treatment products - Lubricants, greases, release products - Paper and board treatment products - Photo-chemicals - Semiconductors - Textile dyes and impregnating products (PC9b, PC9a, PC1, PC39, PC14, PC15, PC17, PC23, PC24, PC26, PC30, PC33, PC34)
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#### *Product (article) characteristics*

##### **Physical form of product:**

Solid in solution  
Solid, low dustiness

##### **Vapour pressure:**

< 0.5 kPa

##### **Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

#### *Amount used, frequency and duration of use/exposure*

##### **Amounts used:**

Application rate 37.5 g

##### **Duration:**

Covers daily exposures up to 8 hours

##### **Frequency:**

Covers exposure up to 4 uses per day

#### *Other conditions affecting consumers exposure*

**Room size:** Covers use in room size of 20 m<sup>3</sup>

**Temperature:** Covers use at ambient temperatures.

**Ventilation rate:** Covers use under typical household ventilation.

#### 1.2. CS2: Consumer Contributing Scenario: Handwash (pretreatment) of clothes (PC35)

<b>Product Categories</b>	Washing and cleaning products (PC35)
<b><i>Product (article) characteristics</i></b>	
<b>Physical form of product:</b> Solid in solution Solid, low dustiness	
<b>Vapour pressure:</b> < 0.5 kPa	
<b>Concentration of substance in product:</b> Covers concentrations up to 60 %	
<b><i>Amount used, frequency and duration of use/exposure</i></b>	
<b>Amounts used:</b> Application rate 37500 g	
<b>Duration:</b> Covers exposure up to 0.17 h/event	
<b>Frequency:</b> Covers frequency up to: 21 times a week	
<b><i>Other conditions affecting consumers exposure</i></b>	
<b>Room size:</b> Covers use in room size of 20 m <sup>3</sup> <b>Temperature:</b> Covers use at ambient temperatures. <b>Ventilation rate:</b> Covers use under typical household ventilation.	
<b>Additional conditions human health</b> Covers skin contact area up to 840 cm <sup>2</sup>	
<b>1.3 Exposure estimation and reference to its source</b>	
N/A	
<b>1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES</b>	
<b>Guidance to check compliance with the exposure scenario:</b> Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.	

## 2. ES 2 Widespread use by professional workers; Various products (PC39, PC35)

### 2.1 TITLE SECTION

<b>Exposure Scenario name</b>	Use in cleaning agents - Uses in cosmetics/personal care products, perfumes and fragrances
<b>Date - Version</b>	09/07/2019 - 1.0
<b>Life Cycle Stage</b>	Widespread use by professional workers
<b>Main user group</b>	Professional uses
<b>Product Categories</b>	Cosmetics, personal care products (PC39) - Washing and cleaning products (PC35)

#### Environment Contributing Scenario

<b>CS1 Water-based process</b>	ERC4 - ERC8a - ERC8c - ERC8d
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#### Worker Contributing Scenario

<b>CS2 General measures applicable to all activities</b>	PROC10 - PROC11 - PROC13 - PROC19
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### 2.2 Conditions of use affecting exposure

#### 2.2. CS1: Environment Contributing Scenario: Water-based process (ERC4, ERC8a, ERC8c, ERC8d)

<b>Environmental release categories</b>	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use leading to inclusion into/onto article (indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC4, ERC8a, ERC8c, ERC8d)
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#### 2.2. CS2: Worker Contributing Scenario: General measures applicable to all activities (PROC10, PROC11, PROC13, PROC19)

<b>Process Categories</b>	Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Manual activities involving hand contact (PROC10, PROC11, PROC13, PROC19)
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### 2.3 Exposure estimation and reference to its source

N/A

### 2.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

#### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.



# Exposure Scenario, 10/07/2019

Substance identity	
Chemical name	2-Aminoetanolo
CAS No.	141-43-5
EINECS No.	205-483-3

## Table of contents

1. **ES 1** Consumer use; Washing and cleaning products (PC35)
2. **ES 2** Widespread use by professional workers; Washing and cleaning products (PC35)
3. **ES 3** Use at industrial site; Polymer preparations and compounds (PC32)

## 1. ES 1 Consumer use; Washing and cleaning products (PC35)

### 1.1 TITLE SECTION

Exposure Scenario name	Consumer goods
Date - Version	10/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Washing and cleaning products (PC35)

### Environment Contributing Scenario

CS1 Water-based process ERC8d

### Consumer Contributing Scenario

CS2 Detergent liquids PC35

## 1.2 Conditions of use affecting exposure

### 1.2. CS1: Environment Contributing Scenario: Water-based process (ERC8d)

Environmental release categories Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)

#### *Amount used, frequency and duration of use (or from service life)*

**Amounts used:**

Annual amount per site 60000000 kg

**Release type:** Continuous release

**Emission days:** 365 days per year

#### *Conditions and measures related to treatment of waste (including article waste)*

#### **Waste treatment**

Contain and dispose of waste according to local regulations.

Waste - minimum efficiency of: 87 %

#### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 18000 m<sup>3</sup>/day

Covers indoor and outdoor use

### 1.2. CS2: Consumer Contributing Scenario: Detergent liquids (PC35)

Product Categories Washing and cleaning products (PC35)

#### *Product (article) characteristics*

**Vapour pressure:**

0.539 hPa

**Concentration of substance in product:**

Covers concentrations up to 5 %

#### *Amount used, frequency and duration of use/exposure*

**Duration:**

Application duration 0.3 min

**Frequency:**

Covers exposure up to 365 days per year

**Duration:**

Exposure duration 0.75 min

**Information and behavioural advice for consumers****Information and behavioural advice for consumers:**

Avoid contact with eyes

**Other conditions affecting consumers exposure****Room size:** Covers use in room size of 1 m<sup>3</sup>**Ventilation rate:** Covers use under typical household ventilation.**Body parts exposed:**

Palm of one hand Hands and forearms

**1.3 Exposure estimation and reference to its source****1.3. CS1: Environment Contributing Scenario: Water-based process (ERC8d)**

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	9.6 kg/d	ECETOC TRA environment v2.0	0.514

**1.2. CS2: Consumer Contributing Scenario: Detergent liquids (PC35)**

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.01 mg/m <sup>3</sup>	N/A	0.01
inhalative, systemic, short-term	0.01 mg/m <sup>3</sup>	N/A	0.01
dermal, systemic, long-term	0.008 mg/kg KW	N/A	0.03
dermal, systemic, long-term	0.002 mg/kg KW	N/A	0.01
oral, systemic, long-term	0.002 mg/kg KW	N/A	0.01

**1.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES****Guidance to check compliance with the exposure scenario:**

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 2. ES 2

## Widespread use by professional workers; Washing and cleaning products (PC35)

## 2.1 TITLE SECTION

Exposure Scenario name	Cleaning agent
Date - Version	10/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Product Categories	Washing and cleaning products (PC35)

## Environment Contributing Scenario

CS1 Water-based process	ERC8d
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## Worker Contributing Scenario

CS2 Cleaning	PROC3
CS3 Cleaning	PROC8a
CS4 Cleaning	PROC10
CS5 Cleaning	PROC7 - PROC11
CS6 Cleaning	PROC13
CS7 Cleaning	PROC19

## 2.2 Conditions of use affecting exposure

## 2.2. CS1: Environment Contributing Scenario: Water-based process (ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)
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*Product (article) characteristics***Physical form of product:**

Liquid

**Concentration of substance in product:**

Covers concentrations up to 10 %

*Amount used, frequency and duration of use (or from service life)***Amounts used:**

Annual amount per site 65000000 kg

**Release type:** Continuous release**Emission days:** 220 days per year*Conditions and measures related to sewage treatment plant***STP type:**Municipal Sewage Treatment Plant  
Water - minimum efficiency of: = 87 %**Additional information on STP:**

Acclimated biological treatment

**STP sludge treatment:**

STP effluent (m<sup>3</sup>/day): 2300

### *Conditions and measures related to treatment of waste (including article waste)*

#### **Waste treatment**

Product residual disposal complies with applicable regulations.

### *Other conditions affecting environmental exposure*

**Local marine water dilution factor:** 100

**Local freshwater dilution factor:** 10

**Receiving surface water flow:** 1800 m<sup>3</sup>/day

Covers indoor and outdoor use

## **2.2. CS2: Worker Contributing Scenario: Cleaning (PROC3)**

#### **Process Categories**

Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition (PROC3)

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

#### **Vapour pressure:**

0.539 hPa

#### **Concentration of substance in product:**

Covers concentrations up to 10 %

### *Amount used, frequency and duration of use/exposure*

#### **Duration:**

Covers daily exposures up to 8 hours

#### **Frequency:**

Covers use up to 240 days per year

### *Technical and organisational conditions and measures*

#### **Technical and organisational measures**

Ensure that direct skin contact is avoided.

### *Conditions and measures related to personal protection, hygiene and health evaluation*

#### **Personal protection**

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Dermal - minimum efficiency of: 90 %
Use suitable eye protection.	

### *Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** Provide forced ventilation 80 %

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

#### **Additional Good Practice Advice:**

Ensure regular inspection, cleaning and maintenance of equipment and machines.

## **2.2. CS3: Worker Contributing Scenario: Cleaning (PROC8a)**

#### **Process Categories**

Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)

### *Product (article) characteristics*

#### **Physical form of product:**

Liquid

**Vapour pressure:**

0.539 hPa

**Concentration of substance in product:**

Covers concentrations up to 10 %

*Amount used, frequency and duration of use/exposure***Duration:**

Covers daily exposures up to 8 hours

**Frequency:**

Covers use up to 240 days per year

*Technical and organisational conditions and measures***Technical and organisational measures**

Ensure that direct skin contact is avoided.

*Conditions and measures related to personal protection, hygiene and health evaluation***Personal protection**

Wear suitable gloves tested to EN374.	Derma - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Derma - minimum efficiency of: 90 %
Use suitable eye protection.	

*Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** Provide forced ventilation 80 %*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.***Additional Good Practice Advice:**

Ensure regular inspection, cleaning and maintenance of equipment and machines.

**2.2. CS4: Worker Contributing Scenario: Cleaning (PROC10)****Process Categories**

Roller application or brushing (PROC10)

*Product (article) characteristics***Physical form of product:**

Liquid

**Vapour pressure:**

0.539 hPa

**Concentration of substance in product:**

Covers concentrations up to 10 %

*Amount used, frequency and duration of use/exposure***Duration:**

Covers daily exposures up to 8 hours

**Frequency:**

Covers use up to 240 days per year

*Technical and organisational conditions and measures***Technical and organisational measures**

Ensure that direct skin contact is avoided.

*Conditions and measures related to personal protection, hygiene and health evaluation*

## Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Dermal - minimum efficiency of: 90 %
Use suitable eye protection.	

## *Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** Provide forced ventilation 80 %

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

### **Additional Good Practice Advice:**

Ensure regular inspection, cleaning and maintenance of equipment and machines.

## 2.2. CS5: Worker Contributing Scenario: Cleaning (PROC7, PROC11)

**Process Categories** Industrial spraying - Non industrial spraying (PROC7, PROC11)

## *Product (article) characteristics*

### **Physical form of product:**

Liquid

### **Vapour pressure:**

0.539 hPa

### **Concentration of substance in product:**

Covers concentrations up to 10 %

## *Amount used, frequency and duration of use/exposure*

### **Duration:**

Covers daily exposures up to 8 hours

### **Frequency:**

Covers use up to 240 days per year

## *Technical and organisational conditions and measures*

### **Technical and organisational measures**

Ensure that direct skin contact is avoided.

## *Conditions and measures related to personal protection, hygiene and health evaluation*

## Personal protection

Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Dermal - minimum efficiency of: 90 %
Use suitable eye protection.	

## *Other conditions affecting worker exposure*

Indoor use

**Ventilation rate:** Provide forced ventilation 80 %

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

### **Additional Good Practice Advice:**

Ensure regular inspection, cleaning and maintenance of equipment and machines.

## 2.2. CS6: Worker Contributing Scenario: Cleaning (PROC13)



<b>Process Categories</b>	Treatment of articles by dipping and pouring (PROC13)
<b>Product (article) characteristics</b>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> 0.539 hPa	
<b>Concentration of substance in product:</b> Covers concentrations up to 10 %	
<b>Amount used, frequency and duration of use/exposure</b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b>Frequency:</b> Covers use up to 240 days per year	
<b>Technical and organisational conditions and measures</b>	
<b>Technical and organisational measures</b> Ensure that direct skin contact is avoided.	
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>	
<b>Personal protection</b>	
Wear suitable gloves tested to EN374.	Dermal - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Dermal - minimum efficiency of: 90 %
Use suitable eye protection.	
<b>Other conditions affecting worker exposure</b>	
Indoor use	
<b>Ventilation rate:</b> Provide forced ventilation 80 %	
<b>Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.</b>	
<b>Additional Good Practice Advice:</b> Ensure regular inspection, cleaning and maintenance of equipment and machines.	
<b>2.2. CS7: Worker Contributing Scenario: Cleaning (PROC19)</b>	
<b>Process Categories</b>	Manual activities involving hand contact (PROC19)
<b>Product (article) characteristics</b>	
<b>Physical form of product:</b> Liquid	
<b>Vapour pressure:</b> 0.539 hPa	
<b>Concentration of substance in product:</b> Covers concentrations up to 10 %	
<b>Amount used, frequency and duration of use/exposure</b>	
<b>Duration:</b> Covers daily exposures up to 8 hours	
<b>Frequency:</b> Covers use up to 240 days per year	
<b>Technical and organisational conditions and measures</b>	

## Technical and organisational measures

Ensure that direct skin contact is avoided.

## Conditions and measures related to personal protection, hygiene and health evaluation

### Personal protection

Wear suitable gloves tested to EN374.	Derma - minimum efficiency of: 98 %
Wear suitable respiratory protection.	Derma - minimum efficiency of: 90 %
Use suitable eye protection.	

### Other conditions affecting worker exposure

Indoor use

**Ventilation rate:** Provide forced ventilation 80 %

*Additional good practice advice. Obligations according to Article 37(4) of REACH do not apply.*

### Additional Good Practice Advice:

Ensure regular inspection, cleaning and maintenance of equipment and machines.

## 2.3 Exposure estimation and reference to its source

### 2.3. CS1: Environment Contributing Scenario: Water-based process (ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	9343 kg/d	ECETOC TRA environment v2.0	0.482

### 2.3. CS2: Worker Contributing Scenario: Cleaning (PROC3)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.01 mg/kg KW	ECETOC TRA worker v2.0	0.01
inhalative, systemic, long-term	0.15 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.05
inhalative, systemic, short-term	0.15 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.05

### 2.3. CS3: Worker Contributing Scenario: Cleaning (PROC8a)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.03 mg/kg KW	ECETOC TRA worker v2.0	0.03
inhalative, systemic, long-term	1.27 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.39

### 2.3. CS4: Worker Contributing Scenario: Cleaning (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.05 mg/kg KW	ECETOC TRA worker v2.0	0.05

inhalative, systemic, long-term	0.76 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.23
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### 2.3. CS5: Worker Contributing Scenario: Cleaning (PROC7, PROC11)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.21 mg/kg KW	ECETOC TRA worker v2.0	0.21
inhalative, systemic, long-term	1.53 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.46

### 2.3. CS6: Worker Contributing Scenario: Cleaning (PROC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.03 mg/kg KW	ECETOC TRA worker v2.0	0.03
inhalative, systemic, long-term	0.25 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.08

### 2.3. CS7: Worker Contributing Scenario: Cleaning (PROC19)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
dermal, systemic, long-term	0.28 mg/kg KW	ECETOC TRA worker v2.0	0.28
inhalative, systemic, long-term	0.38 mg/m <sup>3</sup>	ECETOC TRA worker v2.0	0.12

## 2.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES

### Guidance to check compliance with the exposure scenario:

Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.

## 3. ES 3

## Use at industrial site; Polymer preparations and compounds (PC32)

## 3.1 TITLE SECTION

Exposure Scenario name	Additive
Date - Version	10/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Product Categories	Polymer preparations and compounds (PC32)

## Environment Contributing Scenario

CS1 Solvent-based process	ERC5
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## Worker Contributing Scenario

CS2 Additive	PROC14
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## 3.2 Conditions of use affecting exposure

## 3.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC5)

Environmental release categories	Use at industrial site leading to inclusion into/onto article (ERC5)
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*Product (article) characteristics***Concentration of substance in product:**

Covers percentage substance in the product up to 100 %.

*Amount used, frequency and duration of use (or from service life)***Amounts used:**

Annual amount per site 6720000 kg

**Release type:** Continuous release**Emission days:** 365 days per year*Conditions and measures related to sewage treatment plant***STP type:**

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 87 %

**Additional information on STP:**

Biological elimination

**STP sludge treatment:**

No application of sewage sludge to soil

**STP effluent (m<sup>3</sup>/day):** 2300*Conditions and measures related to treatment of waste (including article waste)***Waste treatment**

Do not apply industrial sludge to natural soils.

*Other conditions affecting environmental exposure***Local marine water dilution factor:** 100**Local freshwater dilution factor:** 10**Receiving surface water flow:** 18000 m<sup>3</sup>/day

## 3.2. CS2: Worker Contributing Scenario: Additive (PROC14)

<b>Process Categories</b>	Tabletting, compression, extrusion, pelletisation, granulation (PROC14)		
<b>Product (article) characteristics</b>			
<b>Physical form of product:</b> Liquid			
<b>Vapour pressure:</b> 0.539 hPa			
<b>Concentration of substance in product:</b> Covers percentage substance in the product up to 100 %.			
<b>Amount used, frequency and duration of use/exposure</b>			
<b>Duration:</b> Covers use up to 480 min			
<b>Frequency:</b> Covers frequency up to: 240 days per year			
<b>Conditions and measures related to personal protection, hygiene and health evaluation</b>			
<b>Personal protection</b>			
Use suitable eye protection.			
Wear suitable gloves tested to EN374.		Inhalation - minimum efficiency of: 90 %	
<b>Other conditions affecting worker exposure</b>			
Indoor use			
<b>Ventilation rate:</b> Provide forced ventilation 90 %			
<b>3.3 Exposure estimation and reference to its source</b>			
<b>3.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC5)</b>			
<b>protection target</b>	<b>Exposure level</b>	<b>Calculation method</b>	<b>Risk Characterization Ratio (RCR)</b>
freshwater	6.28 kg/d	N/A	N/A
<b>3.3. CS2: Worker Contributing Scenario: Additive (PROC14)</b>			
<b>Exposure route, Health effect, Exposure indicator</b>	<b>Exposure level</b>	<b>Calculation method</b>	<b>Risk Characterization Ratio (RCR)</b>
dermal, systemic, long-term	0.07 mg/kg bw/day	ECETOC TRA worker v3	0.07
inhalative, systemic, long-term	1.27 mg/m <sup>3</sup>	ECETOC TRA worker v3	0.39
inhalative, local, long-term	1.27 mg/m <sup>3</sup>	ECETOC TRA worker v3	0.39
<b>3.4 Guidance to DU to evaluate whether he works inside the boundaries set by the ES</b>			
<b>Guidance to check compliance with the exposure scenario:</b>			
Where other risk management measures/operational conditions are adopted, then users should ensure that risks are managed to at least equivalent levels.			