

Safety Data Sheet

Diesel Particulate Filter Treatment



Safety Data Sheet dated 13/1/2020, version 6

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

1.1. Product identifier

Mixture identification:

Trade name: Diesel Particulate Filter Treatment
Trade code: 9065

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

Recommended use:

Fuel additive

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):

⚠ Danger, Asp. Tox. 1, May be fatal if swallowed and enters airways.

Aquatic Chronic 3, Harmful to aquatic life with long lasting effects.

EUH066 Repeated exposure may cause skin dryness or cracking.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:



Danger

Hazard statements:

H304 May be fatal if swallowed and enters airways.

H412 Harmful to aquatic life with long lasting effects.

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.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P331 Do NOT induce vomiting.

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P405 Store locked up.

P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH066 Repeated exposure may cause skin dryness or cracking.

PACK1 The packing must be featured by a safety lock for children.

PACK2 The packing must have tactile indications of danger for blind people.

Contains

Distillates (petroleum), hydrotreated light

Distillates (petroleum), hydrotreated heavy paraffinic; Baseoil - unspecified; [A complex combination of hydrocarbons obtained by treating a petroleum fraction with hydrogen in the presence of a catalyst. It consists of hydrocarbons having carbon numbers predominantly in the range of C20 through C50 and produces a finished oil of at least 100 SUS at 100°F (19cSt at 40 °C). It contains a relatively large proportion of saturated hydrocarbons.]

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

Restricted to professional users.

2.3. Other hazards

vPvB Substances: None - PBT Substances: None

Other Hazards:

No other hazards

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:

>= 60% - < 70% Distillates (petroleum), hydrotreated light

REACH No.: 01-2119456620-43, Index number: 649-422-00-2, CAS: 64742-47-8, EC: 926-141-6

⚠ 3.10/1 Asp. Tox. 1 H304

EUH066

>= 20% - < 25% 2-Ethylhexyl nitrate

EC: 248-363-6

⚠ 3.1/4/Dermal Acute Tox. 4 H312

⚠ 3.1/4/Inhal Acute Tox. 4 H332

⚠ 3.1/4/Oral Acute Tox. 4 H302

⚠ 4.1/C2 Aquatic Chronic 2 H411

>= 3% - < 5% 2-Ethylhexan-1-ol

REACH No.: 01-2119487289-20, CAS: 104-76-7, EC: 203-234-3

⚠ 3.8/3 STOT SE 3 H335

⚠ 3.3/2 Eye Irrit. 2 H319

⚠ 3.2/2 Skin Irrit. 2 H315

⚠ 3.1/4/Inhal Acute Tox. 4 H332

SECTION 4: First aid measures

4.1. Description of first aid measures

In case of skin contact:

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.

Wash with plenty of water and soap.

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Wash thoroughly the body (shower or bath).

Remove contaminated clothing immediately and dispose off safely.

In case of eyes contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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

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

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.

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.

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

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

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- 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

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters
Distillates (petroleum), hydrotreated light - CAS: 64742-47-8
20101.12 - TWA: 1200 mg/m³, 165 ppm
2-Ethylhexyl nitrate
20101.12 - TWA: 1 ppm
2-Ethylhexan-1-ol - CAS: 104-76-7
EU - TWA(8h): 5.4 mg/m³, 1 ppm
ACGIH - TWA: 50 ppm
- DNEL Exposure Limit Values
2-Ethylhexan-1-ol - CAS: 104-76-7
Worker Professional: 12.8 mg/m³ - Consumer: 2.3 mg/m³ - Exposure: Human Inhalation
- Frequency: Long Term, systemic effects
Worker Professional: 53.2 mg/m³ - Consumer: 26.6 mg/m³ - Exposure: Human
Inhalation - Frequency: Long Term, local effects
Worker Professional: 53.2 mg/m³ - Consumer: 26.6 mg/m³ - Exposure: Human
Inhalation - Frequency: Short Term, local effects
Worker Professional: 23 mg/kg - Consumer: 11.4 mg/kg - Exposure: Human Dermal -
Frequency: Long Term, systemic effects
Consumer: 1.1 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
- PNEC Exposure Limit Values
2-Ethylhexan-1-ol - CAS: 104-76-7
Target: Fresh Water - Value: 0.017 mg/l
Target: Marine water - Value: 0.0017 mg/l
Target: Freshwater sediments - Value: 0.28 mg/kg
Target: Marine water sediments - Value: 0.028 mg/kg
Target: 09 - Value: 10 mg/l
- 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

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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:	Liquid Brown	--	--
Odour:	Characteristic	--	--
Odour threshold:	N.A.	--	--
pH:	N.A.	--	--
Melting point / freezing point:	N.A.	--	--
Initial boiling point and boiling range:	N.A.	--	--
Flash point:	>65°C	--	--
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:	0.854 g/ml	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient (n-octanol/water):	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
Viscosity:	<20 mm ² /s	--	--
Explosive properties:	N.A.	--	--
Oxidizing properties:	N.A.	--	--

9.2. Other information

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Properties	Value	Method:	Notes:	PETRONAS
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
- 10.4. Conditions to avoid
Stable under normal conditions.
- 10.5. Incompatible materials
None in particular.
- 10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

- 11.1. Information on toxicological effects
Toxicological information of the product:
PETRONAS Durance DIESEL PARTICULATE FILTER TREATMENT ML 250

a) acute toxicity

Based on available data, the classification criteria are not met
Test: LD50 - Route: Oral - Species: Rat > 10000 mg/kg

b) skin corrosion/irritation

Based on available data, the classification criteria are not met
c) serious eye damage/irritation

Based on available data, the classification criteria are not met
Test: Skin Corrosive - Route: Skin - Species: Rabbit > 5000 mg/kg
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

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i) STOT-repeated exposure

Based on available data, the classification criteria are not met

j) aspiration hazard

The product is classified: Asp. Tox. 1 H304

Test: LC50 - Route: Inhalation Dust - Species: Rat 10 mg/l - Duration: 4h

Toxicological information of the main substances found in the product:

Distillates (petroleum), hydrotreated light - CAS: 64742-47-8

a) acute toxicity:

Test: LC50 - Route: Inhalation - Species: Rat > 5000 mg/m³ - Duration: 8h

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

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

b) skin corrosion/irritation:

Test: OECD TG 404 - Route: Skin Negative

c) serious eye damage/irritation:

Test: OECD TG 405 - Route: EYE Negative

d) respiratory or skin sensitisation:

Test: Inhalation Sensitization 3

Test: Skin Sensitization 3

j) aspiration hazard:

Test: May be fatal if swallowed and enters airways (physical-chemical properties) - Route:

Oral Positive

2-Ethylhexyl nitrate

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Route: Skin Negative

e) germ cell mutagenicity:

Test: Mutagenesis Negative

h) STOT-single exposure:

Test: Respiratory Tract Irritant - Route: Inhalation Positive

i) STOT-repeated exposure:

Test: May cause drowsiness and dizziness. Positive

2-Ethylhexan-1-ol - CAS: 104-76-7

a) acute toxicity:

Test: LD50 - Route: Oral - Species: Rat 2047 mg/kg

Test: LC50 - Route: Skin - Species: Rat > 3000 mg/kg

Test: LC50 - Route: Inhalation - Species: Rat 0.89-5.3 mg/l - Duration: 4h

c) serious eye damage/irritation:

Test: Eye Irritant - Species: Rabbit Positive

d) respiratory or skin sensitisation:

Test: Skin Sensitization - Species: Rabbit Negative

e) germ cell mutagenicity:

Test: Mutagenesis Negative

f) carcinogenicity:

Test: NOAEL - Route: Oral - Species: Rat 500 mg/kg

g) reproductive toxicity:

Test: NOAEL - Species: Rat 130 mg/kg

h) STOT-single exposure:

Test: NOAEL - Route: Oral - Species: Rat 250 mg/kg

Test: NOAEL - Route: Inhalation - Species: Rat 638.4 mg/m³

SECTION 12: Ecological information

12.1. Toxicity

Adopt good working practices, so that the product is not released into the environment.

Distillates (petroleum), hydrotreated light - CAS: 64742-47-8

a) Aquatic acute toxicity:

Endpoint: EL0 - Species: Daphnia 1000 mg/l - Duration h: 48

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- Endpoint: EL0 - Species: Algae 1000 mg/l - Duration h: 72
Endpoint: CE7 - Species: Fish 1000 mg/l - Duration h: 96
- 2-Ethylhexyl nitrate
- a) Aquatic acute toxicity:
- Endpoint: LC50 - Species: Fish 2 mg/l - Duration h: 96
Endpoint: NOEC - Species: Fish 1.52 mg/l - Duration h: 96
Endpoint: EC50 - Species: Algae 3.22 mg/l - Duration h: 72
Endpoint: EC50 - Species: Daphnia > 12.6 mg/l - Duration h: 48
- 2-Ethylhexan-1-ol - CAS: 104-76-7
- a) Aquatic acute toxicity:
- Endpoint: LC50 - Species: Fish 28.2 mg/l - Duration h: 96
Endpoint: LC50 - Species: Fish 17.1 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 39 mg/l - Duration h: 48
Endpoint: EC50 - Species: Algae 11.5 mg/l - Duration h: 72
Endpoint: NOEC - Species: fanghi > 300 mg/l - Duration h: 24
- 12.2. Persistence and degradability
- None
- Distillates (petroleum), hydrotreated light - CAS: 64742-47-8
Biodegradability: Readily biodegradable - Duration: 28gg - %: 69
- 2-Ethylhexyl nitrate
Test: BIOGDG07 - Duration: 28gg - %: 0
- 2-Ethylhexan-1-ol - CAS: 104-76-7
Biodegradability: 4 - Duration: 14 days - %: 100
- 12.3. Bioaccumulative potential
- 2-Ethylhexyl nitrate
Test: Kow - Partition coefficient 5.24
- 2-Ethylhexan-1-ol - CAS: 104-76-7
Test: BCF - Bioconcentration factor 25.33
- 12.4. Mobility in soil
- 2-Ethylhexan-1-ol - CAS: 104-76-7
Test: Log Koc 1.415
- 12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None
- 12.6. Other adverse effects
None

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.

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.
- 14.5. Environmental hazards
ADR-Environmental Pollutant: No
IMDG-Marine pollutant: No

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- 14.6. Special precautions for user
N.A.
- 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code
No

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)
Regulation (EU) n. 2018/699 (ATP 11 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

Restrictions related to the substances contained:

Restriction 28

Volatile Organic compounds - VOCs = 67.70 %

Volatile Organic compounds - VOCs = 676.95 g/Kg

Volatile Organic compounds - VOCs = 578.12 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:

None

SECTION 16: Other information

Text of phrases referred to under heading 3:

H304 May be fatal if swallowed and enters airways.

EUH066 Repeated exposure may cause skin dryness or cracking.

H312 Harmful in contact with skin.

H332 Harmful if inhaled.

H302 Harmful if swallowed.

H411 Toxic to aquatic life with long lasting effects.

H335 May cause respiratory irritation.

H319 Causes serious eye irritation.

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H315 Causes skin irritation.

Hazard class and hazard category	Code	Description
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
Asp. Tox. 1	3.10/1	Aspiration hazard, Category 1
Skin Irrit. 2	3.2/2	Skin irritation, Category 2
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 2	4.1/C2	Chronic (long term) aquatic hazard, category 2
Aquatic Chronic 3	4.1/C3	Chronic (long term) aquatic hazard, category 3

Paragraphs modified from the previous revision:

SECTION 2: Hazards identification
SECTION 8: Exposure controls/personal protection
SECTION 11: Toxicological information
SECTION 12: Ecological information
SECTION 15: Regulatory information

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
Asp. Tox. 1, H304	Calculation method
Aquatic Chronic 3, H412	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.

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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, 18/07/2019

Substance identity	
Chemical name	Idrocarburi , C11- C14 , n-alcani , isoalcani, ciclici,< 2% aromatici.
CAS No.	64742-47-8
EINECS No.	926-141-6

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2. **ES 2** Widespread use by professional workers
3. **ES 3** Consumer use; Fuels (PC13)

1. ES 1 Use at industrial site	
1.1 TITLE SECTION	
Exposure Scenario name	Fuel
Date - Version	18/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)
Environment Contributing Scenario	
CS1 Covered by	ERC7
Worker Contributing Scenario	
CS2 Industrial	PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC16
1.2 Conditions of use affecting exposure	
1.2. CS1: Environment Contributing Scenario: Covered by (ERC7)	
Environmental release categories	Use of functional fluid at industrial site (ERC7)
1.2. CS2: Worker Contributing Scenario: Industrial (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)	
Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Use of fuels (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)
Product (article) characteristics	
Physical form of product: Liquid	
Concentration of substance in product: Covers percentage substance in the product up to 100 %.	
Amount used, frequency and duration of use/exposure	
Duration: Covers daily exposures up to 8 hours	
1.3 Exposure estimation and reference to its source	
N/A	
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

2.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	18/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses

Environment Contributing Scenario

CS1 Solids based process	ERC9a - ERC9b
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Worker Contributing Scenario

CS2 General use from professional operators	PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC16
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2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Solids based process (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)
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2.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)

Process Categories	Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Use of fuels (PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC16)
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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/exposure

Duration:

Covers daily exposures up to 8 hours

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.

3. ES 3 Consumer use; Fuels (PC13)

3.1 TITLE SECTION

Exposure Scenario name	Fuel
Date - Version	18/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Fuels (PC13)

Environment Contributing Scenario

CS1 Covered by	ERC9a - ERC9b
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Consumer Contributing Scenario

CS2 Consumer	PC13
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3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Covered by (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)
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3.2. CS2: Consumer Contributing Scenario: Consumer (PC13)

Product Categories	Fuels (PC13)
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3.3 Exposure estimation and reference to its source

N/A

3.4 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, 11/07/2019

Substance identity	
Chemical name	2-Ethylhexan-1-ol
CAS No.	104-76-7
EINECS No.	203-234-3

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1. **ES 1** Widespread use by professional workers
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1. ES 1 Widespread use by professional workers	
1.1 TITLE SECTION	
Exposure Scenario name	Handling and dilution of concentrates
Date - Version	11/07/2019 - 1.0
Life Cycle Stage	Widespread use by professional workers
Main user group	Professional uses
Sector(s) of use	Professional uses (SU22)
Environment Contributing Scenario	
CS1 Solvent-based process	ERC8d
Worker Contributing Scenario	
CS2 Handling and dilution of concentrates	PROC5 - PROC8a - PROC8b
1.2 Conditions of use affecting exposure	
1.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8d)	
Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8d)
<i>Product (article) characteristics</i>	
Physical form of product: Liquid	
Vapour pressure: < 0.5 kPa	
Concentration of substance in product: Covers percentage substance in the product up to 25 %.	
<i>Amount used, frequency and duration of use (or from service life)</i>	
Amounts used: Daily amount per site 2.74 kg/day	
Release type: Continuous release	
Emission days: 365 days per year	
<i>Conditions and measures related to sewage treatment plant</i>	
STP type: Municipal Sewage Treatment Plant	
STP effluent (m³/day): 2000	
<i>Conditions and measures related to treatment of waste (including article waste)</i>	
Waste treatment Product residual disposal complies with applicable regulations.	
<i>Other conditions affecting environmental exposure</i>	
Local marine water dilution factor: 100 Local freshwater dilution factor: 10	
1.2. CS2: Worker Contributing Scenario: Handling and dilution of concentrates (PROC5, PROC8a, PROC8b)	
Process Categories	Mixing or blending in batch processes - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC5, PROC8a, PROC8b)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 0.5 kPa

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Ensure operatives are trained to minimise exposures.

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

Personal protection

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Covers indoor and outdoor use

Professional use

Temperature: Covers use at ambient temperatures.

Ventilation rate: Provide forced ventilation > 3 ach (air changes per hour)

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.08 mg/L	N/A	0.008
freshwater	0.01 mg/L	N/A	0.00058
freshwater sediment	0.163 mg/kg bw/day	N/A	0.0005739
marine water	0.000953 mg/L	N/A	0.0005606
marine sediment	0.016 mg/kg bw/day	N/A	0.0005634
soil	0.023 mg/kg bw/day	N/A	0.0004894

1.3. CS2: Worker Contributing Scenario: Handling and dilution of concentrates (PROC5, PROC8a, PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, local, long-term	4.6 mg/m ³	N/A	0.36
inhalative, systemic, long-term	7.6 mg/m ³	N/A	0.59
inhalative, systemic, long-term	6.8 mg/m ³	N/A	0.53
inhalative, systemic, long-term	4.9 mg/m ³	N/A	0.38

inhalative, systemic, long-term	2.9 mg/m ³	N/A	0.23
inhalative, systemic, long-term	2.3 mg/m ³	N/A	0.18
dermal, systemic, long-term	8.2 mg/kg bw/day	N/A	0.358
dermal, systemic, long-term	2.7 mg/kg bw/day	N/A	0.119
dermal, systemic, long-term	1.6 mg/kg bw/day	N/A	0.072
dermal, systemic, long-term	0.55 mg/kg bw/day	N/A	0.024
dermal, systemic, long-term	1.6 mg/kg bw/day	N/A	0.072

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 Consumer use; Various products (PC8, PC13)

2.1 TITLE SECTION

Exposure Scenario name	Handling and dilution of concentrates
Date - Version	11/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Biocidal products (PC8) - Fuels (PC13)

Environment Contributing Scenario

CS1 Solvent-based process	ERC8a - ERC8d
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Consumer Contributing Scenario

CS2 Fuel additives	PC8 - PC13
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2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)

Environmental release categories	Widespread use of non-reactive processing aid (no inclusion into or onto article, indoor) - Widespread use of non-reactive processing aid (no inclusion into or onto article, outdoor) (ERC8a, ERC8d)
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Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

> 10 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

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

Waste treatment

Product residual disposal complies with applicable regulations.	Waste - minimum efficiency of: > 88.4 %
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Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

Receiving surface water flow: 2000 m³/day

2.2. CS2: Consumer Contributing Scenario: Fuel additives (PC8, PC13)

Product Categories	Biocidal products - Fuels (PC8, PC13)
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Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

> 10 Pa

Concentration of substance in product:

Covers percentage substance in the product up to 25 %.

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

Amount per use 1000 g

Duration:

Covers exposure up to 1.3 min/day

Frequency:

Covers frequency up to: 24 times per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

2.3 Exposure estimation and reference to its source

2.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC8a, ERC8d)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.04 mg/L	N/A	0.004
freshwater	0.006 mg/L	N/A	0.0003529
freshwater sediment	0.096 mg/kg bw/day	N/A	0.000338
marine water	0.000555 mg/L	N/A	0.0003265
marine sediment	0.009 mg/kg bw/day	N/A	0.000316
soil	0.012 mg/kg bw/day	N/A	0.0002553

2.2. CS2: Consumer Contributing Scenario: Fuel additives (PC8, PC13)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	0.001 mg/m ³	N/A	0.000434
inhalative, systemic, short-term	1.12 mg/m ³	N/A	0.0421
dermal, systemic, long-term	0.083 mg/kg bw/day	N/A	0.00728

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

3.1 TITLE SECTION

Exposure Scenario name	Professional use of general surface cleaning products
Date - Version	11/07/2019 - 1.0
Life Cycle Stage	Use at industrial site
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3)

Environment Contributing Scenario

CS1 Solvent-based process	ERC4
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Worker Contributing Scenario

CS2 Industrial	PROC2 - PROC3 - PROC7 - PROC8a - PROC8b
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3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) (ERC4)
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Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

< 0.5 kPa

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

Amounts used:

Annual site tonnage 300 t(tonnes)/year

Release type: Continuous release

Emission days: 300 days per year

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: > 88.4 %

STP effluent (m³/day): 2000

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

3.2. CS2: Worker Contributing Scenario: Industrial (PROC2, PROC3, PROC7, PROC8a, PROC8b)

Process Categories	Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions - Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition - Industrial spraying - Transfer of substance
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or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities (PROC2, PROC3, PROC7, PROC8a, PROC8b)

Product (article) characteristics

Physical form of product:

Liquid

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

Duration:

Covers daily exposures up to 8 hours

Technical and organisational conditions and measures

Technical and organisational measures

Use of an integrated local exhaust ventilation is required.

Use of suppression techniques are required.

Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).

Ensure operatives are trained to minimise exposures.

Drain down and flush system prior to equipment break-in or maintenance.

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

Personal protection

Wear suitable gloves tested to EN374.

Use suitable eye protection.

Other conditions affecting worker exposure

Temperature: Covers use at ambient temperatures.

3.3 Exposure estimation and reference to its source

3.3. CS1: Environment Contributing Scenario: Solvent-based process (ERC4)

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
wastewater treatment plant microbes	0.002 mg/L	N/A	0.0002
freshwater	0.002 mg/L	N/A	0.0001176
freshwater sediment	0.032 mg/kg KW	N/A	0.0001127
marine water	0.000171 mg/L	N/A	0.0001006
marine sediment	0.003 mg/kg bw/day	N/A	0.0001056
soil	0.037 mg/kg bw/day	N/A	0.0007872

3.3. CS2: Worker Contributing Scenario: Industrial (PROC2, PROC3, PROC7, PROC8a, PROC8b)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	1.1 mg/m ³	N/A	0.08

inhalative, systemic, long-term	3.2 mg/m ³	N/A	0.25
inhalative, systemic, long-term	7.6 mg/m ³	N/A	0.59
inhalative, systemic, long-term	5.4 mg/m ³	N/A	0.42
inhalative, systemic, long-term	3.8 mg/m ³	N/A	0.3
inhalative, systemic, long-term	8.1 mg/m ³	N/A	0.63
dermal, systemic, long-term	0.27 mg/kg bw/day	N/A	0.012
dermal, systemic, long-term	0.14 mg/kg bw/day	N/A	0.006
dermal, systemic, long-term	1.7 mg/kg bw/day	N/A	0.075
dermal, systemic, long-term	2.7 mg/kg bw/day	N/A	0.119

3.4 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.