Safety Data Sheet
PETRONAS Durance Chain Lubricant

Safety Data Sheet dated 22/4/2024, version 6

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

1.1. Product identifier

Mixture identification:

Trade name: PETRONAS Durance Chain Lubricant

Trade code: 8577

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

Recommended use:

Lubricant for chains

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

In England and Wales: NHS 111 - dial 111

In Scotland: NHS 24 - dial 111

In Ireland: emergency number 112

In South Africa: Poison Information Helpline 0861 555 777

In Malta: emergency number 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

EC regulation criteria 1272/2008 (CLP):

- Danger, Aerosols 1, Extremely flammable aerosol. Pressurized container: may burst if heated.
- Warning, Skin Irrit. 2, Causes skin irritation.
- Warning, Eye Irrit. 2, Causes serious eye irritation.
- Warning, STOT SE 3, May cause drowsiness or dizziness.
- Aquatic Chronic 2, Toxic to aquatic life with long lasting effects.

Adverse physicochemical, human health and environmental effects:

No other hazards

2.2. Label elements

Hazard pictograms:

Danger

Hazard statements:

H222, H229 Extremely flammable aerosol. Pressurized container: may burst if heated.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic 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 carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P312 Call a POISON CENTER if you feel unwell.
P405 Store locked up.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.
P501 Dispose of contents/container in accordance with applicable regulations.

Special Provisions:
None

Contains
C6 hydrocarbons isoalcane < 5% n- Hexane
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics

Special provisions according to Annex XVII of REACH and subsequent amendments:
None

2.3. Other hazards
No PBT, vPvB or endocrine disruptor substances present in concentration >= 0.1%

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:

stta	Name	Ident. Number		Classification
>= 50% - < 60%	Hydrocarbons, C3-4; Petroleum gas	Index number: CAS: EC: REACH No.:	649-199-00-1 68476-40-4 270-681-9 01-2119486557-22	2.2/1A Flam. Gas 1A H220 2.5/L Press Gas (Liq.) H280 DECLK (CLP)*
>= 15% - < 20%	C6 hydrocarbons isoalcane < 5% n-Hexane	CAS: EC: REACH No.:	64742-49-0 931-254-9 01-2119484651-34	2.6/2 Flam. Liq. 2 H225 3.10/1 Asp. Tox. 1 H304 3.2/2 Skin Irrit. 2 H315 3.8/3 STOT SE 3 H336 4.1/C2 Aquatic Chronic 2 H411
>= 7% - < 10%	Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics	CAS: EC: REACH No.:	64742-48-9 919-857-5 01-2119463258-33	2.6/3 Flam. Liq. 3 H226 3.10/1 Asp. Tox. 1 H304 3.8/3 STOT SE 3 H336 EUH066 DECLP (CLP)*

>= 0,5% - < 1%	Phenol, isopropylated, phosphate (3:1)	CAS: EC: REACH No.:	68937-41-7 273-066-3 01-2119535109-41	3.7/2 Repr. 2 H361fd 3.9/2 STOT RE 2 H373 4.1/C1 Aquatic Chronic 1 H410 M=10.
>= 0,02% - < 0,05%	Amines, C16-C18-(even numbered, saturated and unsaturated) alkyl, O, O-di-Bu phosphorothioates	EC:	947-129-7	3.3/2 Eye Irrit. 2 H319 4.1/A1 Aquatic Acute 1 H400 M=10. 4.1/C2 Aquatic Chronic 2 H411

*DECLK (CLP): Substance classified in accordance with Note K, Annex VI of EC Regulation (EC) 1272/2008. The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w 1,3- butadiene (Einecs No 203-450-8), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P210-P403 shall apply.
*DECLP (CLP): Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008. The harmonised classification as a carcinogen or mutagen applies unless it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7), in which case a classification in accordance with Title II of this Regulation shall be performed also for those hazard classes. Where the substance is not classified as a carcinogen or mutagen, at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply.

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.
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 opthalmologist 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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Appropriate Extinguishing Media:
Not Recommended Extinguishing Media:

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 all sources of ignition.
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 in the containers.
See also section 8 for recommended protective equipment.
Advice on general occupational hygiene:
Contamined clothing should be changed before entering eating areas.
Do not eat or drink while working.

7.2. Conditions for safe storage, including any incompatibilities
Store at below 50 °C. Keep away from unguarded flame and heat sources. Avoid direct exposure to sunlight.
Keep away from unguarded flame, sparks, and heat sources. Avoid direct exposure to sunlight.
Keep away from food, drink and feed.
None in particular.
Instructions as regards storage premises:
Cool and adequately ventilated.

7.3. Specific end use(s)
None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters
Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
MAK - TWA: 2400 mg/m3, 1000 ppm
TLV TWA - 1900 mg/m3, 800 ppm
C6 hydrocarbons isoalcane < 5% n- Hexane - CAS: 64742-49-0

ACGIH - TWA: 1200 mg/m3, 353 ppm
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics - CAS: 64742-48-9
ACGIH - TWA: 1200 mg/m3, 197 ppm
DNEL Exposure Limit Values
C6 hydrocarbons isoalcane < 5% n- Hexane - CAS: 64742-49-0
Worker Professional: 1508 ppm - Exposure: Human Inhalation - Frequency: Long Term, systemic effects - Notes: (idrocarburi C6 isoalcani < 5% n-Esano)
Worker Professional: 13964 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 323 ppm - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Worker Professional: 1377 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 1301 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics - CAS: 64742-48-9
Worker Professional: 208 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Worker Professional: 871 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 125 mg/kg - Exposure: Human Dermal - Frequency: Long Term, systemic effects
Consumer: 185 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, systemic effects
Consumer: 125 mg/kg - Exposure: Human Oral - Frequency: Long Term, systemic effects
Phenol, isopropylated, phosphate (3:1) - CAS: 68937-41-7
Consumer: 0.04 mg/kg - Exposure: Human Oral - Frequency: Long Term, local effects
Worker Professional: 0.145 mg/m3 - Exposure: Human Inhalation - Frequency: Long Term, local effects
Worker Professional: 0.417 mg/kg - Consumer: 0.208 mg/kg - Exposure: Human Dermal - Frequency: Long Term, local effects
PNEC Exposure Limit Values
Phenol, isopropylated, phosphate (3:1) - CAS: 68937-41-7
Target: Fresh Water - Value: 0.00031 mg/l
Target: Marine water - Value: 0.000031 mg/l
Target: Freshwater sediments - Value: 0.185 mg/kg
Target: 09 - Value: 100 mg/l

8.2. Exposure controls

Eye protection:
Use close fitting safety goggles, don't use eye lens.

Protection for skin:
Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:
Use protective gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:
Use adequate protective respiratory equipment.

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:
Physical state:	Liquid	--	--
Colour:	Amber	--	--
Odour:	Characteristic	--	--
Melting point/freezing point:	N.A.	--	--
Boiling point or initial boiling point and boiling range:	N.A.	--	--
Flammability:	N.A.	--	--
Lower and upper explosion limit:	N.A.	--	--
Flash point:	N.A.	--	--
Auto-ignition temperature:	N.A.	--	--
Decomposition temperature:	N.A.	--	--
pH:	N.A.	--	--
Kinematic viscosity:	N.A.	--	--
Solubility in water:	N.A.	--	--
Solubility in oil:	N.A.	--	--
Partition coefficient n-octanol/water (log value):	N.A.	--	--
Vapour pressure:	N.A.	--	--
Density and/or relative density:	N.A.	--	--
Relative vapour density:	N.A.	--	--
Particle characteristics:			
Particle size:	N.A.	--	--

9.2. Other information
No other relevant information

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
Avoid contact with combustible materials. The product could catch fire.
10.6. Hazardous decomposition products
None.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008
Toxicological information of the product:
PETRONAS Durance Chain Lubricant SPRAY ML 200
a) acute toxicity
Not classified
Based on available data, the classification criteria are not met
b) skin corrosion/irritation
The product is classified: Skin Irrit. 2 H315
c) serious eye damage/irritation
The product is classified: Eye Irrit. 2 H319
d) respiratory or skin sensitisation
Not classified
Based on available data, the classification criteria are not met
e) germ cell mutagenicity
Not classified
Based on available data, the classification criteria are not met
f) carcinogenicity
Not classified
Based on available data, the classification criteria are not met
g) reproductive toxicity
Not classified
Based on available data, the classification criteria are not met
h) STOT-single exposure
The product is classified: STOT SE 3 H336
i) STOT-repeated exposure
Not classified
Based on available data, the classification criteria are not met
j) aspiration hazard
Not classified
Based on available data, the classification criteria are not met
Toxicological information of the main substances found in the product:
C6 hydrocarbons isoalcane < 5% n- Hexane - CAS: 64742-49-0
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 20 mg/l - Duration: 4h
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LC50 - Route: Skin - Species: Rabbit > 3000 mg/kg
Test: LC50 - Route: Inhalation - Species: Rat > 20 mg/l - Duration: 4h - Source: OECD 403 - Notes: (idrocarburi C6 isoalcani < 5% n-Esano)
Test: LD50 - Route: Oral - Species: Rat > 5000 ml/kg - Source: OCSE 401 - Notes: (idrocarburi C6 isoalcani < 5% n-Esano)
Test: LD50 - Route: Skin - Species: Rabbit > 5 ml/kg - Source: Read across - Notes: (idrocarburi C6 isoalcani < 5% n-Esano)
Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics - CAS: 64742-48-9
a) acute toxicity:
Test: LC50 - Route: Inhalation - Species: Rat > 5000 mg/m3 - Duration: 4h - Source: ECHA BP - SUPPLIER SDS
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg - Source: ECHA BP - SUPPLIER

SDS
Test: LD50 - Route: Skin - Species: Rabbit > 5000 mg/kg - Source: ECHA BP - SUPPLIER SDS

h) STOT-single exposure:
Test: May cause drowsiness and dizziness. Positive - Source: SUPPLIER SDS - No data available for the product

i) STOT-repeated exposure:
Test: OECD 422 Negative - Source: SUPPLIER SDS
Test: NOAEL - Route: Oral - Species: Rat > 1000 mg/kg - Source: ECHA BP
Test: NOAEL - Route: Inhalation - Species: Rat 200 Ppm - Source: ECHA BP
Test: NOAEC - Route: Inhalation - Species: Rat > 275 mg/m3 - Source: ECHA BP

j) aspiration hazard:
Test: May be fatal if swallowed and enters airways (physical-chemical properties) - Route: Oral - Source: SUPPLIER SDS

Phenol, isopropylated, phosphate (3:1) - CAS: 68937-41-7

a) acute toxicity:
Test: LD50 - Route: Oral - Species: Rat > 5000 mg/kg
Test: LD50 - Route: Skin - Species: Rabbit > 10000 mg/kg
Test: LD50 - Route: Inhalation - Species: Rat > 200 mg/l

11.2. Information on other hazards
Endocrine disrupting properties:
No endocrine disruptor substances present in concentration >= 0.1%

SECTION 12: Ecological information

12.1. Toxicity
Adopt good working practices, so that the product is not released into the environment.
Hydrocarbons, C3-4; Petroleum gas - CAS: 68476-40-4
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Daphnia = 14.22 mg/l - Duration h: 48

C6 hydrocarbons isoalcane < 5% n- Hexane - CAS: 64742-49-0
a) Aquatic acute toxicity:
Endpoint: EC50 - Species: Algae = 13.56 mg/l - Duration h: 72 - Notes: (QSAR)
Endpoint: LC50 - Species: Fish > 1 mg/l - Notes: (idrocarburi C6 isoalcani < 5% n-Esano) Read across
Endpoint: EC50 - Species: Daphnia = 37.9 mg/l - Duration h: 48 - Notes: (idrocarburi C6 isoalcani < 5% n-Esano) QSAR

Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics - CAS: 64742-48-9
a) Aquatic acute toxicity:
Endpoint: EL0 - Species: Daphnia 1000 mg/l - Duration h: 48
Endpoint: EL50 - Species: Algae > 1000 mg/l - Duration h: 72
Endpoint: LL50 - Species: Fish > 1000 mg/l - Duration h: 96
Endpoint: NOELR - Species: Algae 100 mg/l - Duration h: 72

Phenol, isopropylated, phosphate (3:1) - CAS: 68937-41-7
a) Aquatic acute toxicity:
Endpoint: LC50 - Species: Fish 10.8 mg/l - Duration h: 96
Endpoint: EC50 - Species: Daphnia 2.44 mg/l - Duration h: 48

b) Aquatic chronic toxicity:
Endpoint: NOEC - Species: Fish 0.0031 mg/l - Duration h: 792 - Notes: 33 d
Endpoint: NOEC - Species: Daphnia 0.041 mg/l - Duration h: 504 - Notes: 21 d

12.2. Persistence and degradability
None
Phenol, isopropylated, phosphate (3:1) - CAS: 68937-41-7
Biodegradability: Non-readily biodegradable - Duration: 28gg - %: 17.9

12.3. Bioaccumulative potential
N.A.

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment
vPvB Substances: None - PBT Substances: None

12.6. Endocrine disrupting properties
No endocrine disruptor substances present in concentration >= 0.1%

12.7. 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 or ID number

ADR-UN Number:	1950
IATA-UN Number:	1950
IMDG-UN Number:	1950

14.2. UN proper shipping name

ADR-Shipping Name:	AEROSOLS, flammable
IATA-Shipping Name:	AEROSOLS, flammable
IMDG-Shipping Name:	AEROSOLS, flammable

14.3. Transport hazard class(es)

ADR-Class:	2
ADR - Hazard identification number:	-
IATA-Class:	2
IATA-Label:	2.1
IMDG-Class:	2

14.4. Packing group

ADR-Packing Group:	-
IATA-Packing group:	-
IMDG-Packing group:	-

14.5. Environmental hazards

ADR-Enviromental Pollutant:	Yes
IMDG-Marine pollutant:	Marine Pollutant
IMDG-EmS:	F-D, S-U

14.6. Special precautions for user

ADR-Subsidiary hazards:	See SP63
ADR-S.P.:	190 327 344 625
ADR-Transport category (Tunnel restriction code):	2 (D)
IATA-Passenger Aircraft:	203
IATA-Subsidiary hazards:	See SP63
IATA-Cargo Aircraft:	203
IATA-S.P.:	A145 A167 A802
IATA-ERG:	10L
IMDG-Subsidiary hazards:	See SP63
IMDG-Stowage and handling:	SW1 SW22
IMDG-Segregation:	SG69

14.7. Maritime transport in bulk according to IMO instruments
N.A.

Limited Quantity: 1 L
Exempted Quantity: E0

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) n. 2020/878
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. 2018/669 (ATP 11 CLP)
Regulation (EU) n. 2018/1480 (ATP 13 CLP)
Regulation (EU) n. 2019/521 (ATP 12 CLP)
Regulation (EU) n. 2020/217 (ATP 14 CLP)
Regulation (EU) n. 2020/1182 (ATP 15 CLP)
Regulation (EU) n. 2021/643 (ATP 16 CLP)
Regulation (EU) n. 2021/849 (ATP 17 CLP)
Regulation (EU) n. 2022/692 (ATP 18 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 = 76.95 %
Volatile Organic compounds - VOCs = 769.50 g/Kg
Volatile Organic compounds - VOCs = 502.48 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
Product belongs to category: P3a, E2

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:
H220 Extremely flammable gas.
H280 Contains gas under pressure; may explode if heated.

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.
H226 Flammable liquid and vapour.
EUH066 Repeated exposure may cause skin dryness or cracking.
H361fd Suspected of damaging fertility. Suspected of damaging the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.
H319 Causes serious eye irritation.
H400 Very toxic to aquatic life.

Hazard class and hazard category	Code	Description
Flam. Gas 1A	2.2/1A	Flammable gas, Category 1A
Aerosols 1	2.3/1	Aerosol, Category 1
Press Gas (Liq.)	2.5/L	Gases under pressure (Liquefied gas)
Flam. Liq. 2	2.6/2	Flammable liquid, Category 2
Flam. Liq. 3	2.6/3	Flammable liquid, Category 3
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
Repr. 2	3.7/2	Reproductive toxicity, Category 2
STOT SE 3	3.8/3	Specific target organ toxicity - single exposure, Category 3
STOT RE 2	3.9/2	Specific target organ toxicity - repeated exposure, Category 2
Aquatic Acute 1	4.1/A1	Acute aquatic hazard, category 1
Aquatic Chronic 1	4.1/C1	Chronic (long term) aquatic hazard, category 1
Aquatic Chronic 2	4.1/C2	Chronic (long term) aquatic hazard, category 2

This safety data sheet has been completely updated in compliance to Regulation 2020/878.
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
Aerosols 1, H222, H229	On basis of test data
Skin Irrit. 2, H315	Calculation method (Aerosol without propellant)

Eye Irrit. 2, H319	Calculation method (Aerosol without propellant)
STOT SE 3, H336	Calculation method (Aerosol without propellant)
Aquatic Chronic 2, H411	Calculation method (Aerosol without propellant)

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.
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, 17/07/2019

Substance identity	
Chemical name	IDROCARBURI C3-C4, Miscela (propano,butano,isobutano< 0,1% 1,3-Butadiene)
CAS No.	68476-40-4
EINECS No.	270-681-9

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1. ES 1 Use at industrial site

1.1 TITLE SECTION

Exposure Scenario name	Use as a propellant
Date - Version	17/07/2019 - 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	ERC4

Worker Contributing Scenario

CS2 Propellant	PROC1 - PROC2 - PROC3 - PROC8b - PROC9 - PROC12

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario: Covered by (ERC4)

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

1.2. CS2: Worker Contributing Scenario: Propellant (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12)

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 dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Use of blowing agents in manufacture of foam (PROC1, PROC2, PROC3, PROC8b, PROC9, PROC12)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

> 10 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

Keep drains in watertight containers while awaiting dismantling or subsequent recycling
Use in contained systems
Ensure operatives are trained to minimise exposures.
Ensure that direct skin contact is avoided.
Clear transfer lines prior to de-coupling.
Provide a good standard of controlled ventilation (10 to 15 air changes per hour).
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 respiratory protection.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

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.

Exposure Scenario, 19/09/2019

Substance identity	
Chemical name	ISOESANO NAZ.LE
CAS No.	64742-49-0
EINECS No.	931-254-9

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1. ES 1 Use at industrial site

1.1 TITLE SECTION

Exposure Scenario name	Use in cleaning agents
Date - Version	19/09/2019 - 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	ERC4
Worker Contributing Scenario	
CS2 Industrial	PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC10 - PROC13

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario: Covered by (ERC4)

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

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

Amounts used:

Annual site tonnage 100 t(onnes)/year

Maximum allowable site tonnage (MSafe): 15800000 kg/day

Release type: Continuous release

Emission days: 20 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 70 %
Prevent discharge of undissolved substance to or recover from onsite wastewater.	

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 96.6 %

STP effluent (m^3/day): 2000

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

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

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

Additional Good Practice Advice:

Do not apply industrial sludge to natural soils.

1.2. CS2: Worker Contributing Scenario: Industrial (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13)

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 - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Treatment of articles by dipping and pouring (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC10, PROC13)

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

Technical and organisational conditions and measures

Technical and organisational measures

Remove spills immediately

Handle substance within a closed system.

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

1.3 Exposure estimation and reference to its source

1.3. CS1: Environment Contributing Scenario: Covered by (ERC4)

Release route	Release rate	Release estimation method
Air	1 %	N/A
Water	3 %	N/A
soil	0 %	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	Use in cleaning agents
Date - Version	19/09/2019 - 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 Covered by	ERC8a - ERC8d

Worker Contributing Scenario

CS2 General use from professional operators	PROC1 - PROC2 - PROC3 - PROC4 - PROC8a - PROC8b - PROC10 - PROC11 - PROC13

2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Covered by (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)

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

Amounts used:
Annual site tonnage 0.0006 t(onnes)/year

Maximum allowable site tonnage (MSafe): 8.46 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases
Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Conditions and measures related to sewage treatment plant

STP type:
Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 96.9 %
STP effluent (m^3/day): 2000

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

Waste treatment
External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10

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

Additional Good Practice Advice:
Do not apply industrial sludge to natural soils.

2.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13)

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 - Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring (PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC10, PROC11, PROC13)

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

Technical and organisational conditions and measures

Technical and organisational measures

Remove spills immediately
Ensure operatives are trained to minimise exposures.
Handle substance within a closed system.

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

Personal protection

Wear suitable gloves tested to EN374 and sleeves. For further specification, refer to section 8 of the SDS

2.3 Exposure estimation and reference to its source

2.3. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

Release route	Release rate	Release estimation method
Air	0.02 %	N/A
Water	1 %	N/A
soil	0 %	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; Various products (PC9b, PC9a, PC3, PC4, PC8)

3.1 TITLE SECTION

Exposure Scenario name	Cleaning agent
Date - Version	19/09/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Fillers, putties, plasters, modelling clay (PC9b) - Coatings and paints, thinners, paint removers (PC9a) - Air care products (PC3) - Anti-freeze and de-icing products (PC4) - Biocidal products (PC8) - Lubricants, greases, release products (PC24) - Washing and cleaning products (PC35) - Welding and soldering products, flux products (PC38)

Environment Contributing Scenario

CS1 Covered by	ERC8a - ERC8d

Consumer Contributing Scenario

CS2 Consumer	PC9b - PC9a - PC3 - PC4 - PC8 - PC24 - PC35 - PC38
CS3 Consumer	PC3
CS4 Consumer	PC3
CS5 Consumer	PC3
CS6 Consumer	PC3
CS7 Consumer	PC4
CS8 Consumer	PC4
CS9 Consumer	PC4
CS10 Consumer	PC8
CS11 Consumer	PC8
CS12 Consumer	PC8
CS13 Consumer	PC9a
CS14 Consumer	PC24
CS15 Consumer	PC24
CS16 Consumer	PC35
CS17 Consumer	PC35
CS18 Consumer	PC35
CS19 Consumer	PC38

3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Covered by (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)

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

Amounts used:
Annual site tonnage 0.034 t(onnes)/year

Maximum allowable site tonnage (MSafe): 392 kg/day

Release type: Continuous release

Emission days: 365 days per year

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

Waste treatment
External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10

3.2. CS2: Consumer Contributing Scenario: Consumer (PC9b, PC9a, PC3, PC4, PC8, PC24, PC35, PC38)

Product Categories	Fillers, putties, plasters, modelling clay - Coatings and paints, thinners, paint removers - Air care products - Anti-freeze and de-icing products - Biocidal products - Lubricants, greases, release products - Washing and cleaning products - Welding and soldering products, flux products (PC9b, PC9a, PC3, PC4, PC8, PC24, PC35, PC38)

Product (article) characteristics

Physical form of product:
Liquid

Vapour pressure:
> 100 hPa

Concentration of substance in product:
Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 13.8 g

Duration:
Covers exposure up to 640 min/day

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

3.2. CS3: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.1 g

Duration:
Covers exposure up to 15 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS4: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 5 g

Duration:
Covers exposure up to 15 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS5: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.48 g

Duration:
Covers exposure up to 640 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS6: Consumer Contributing Scenario: Consumer (PC3)

Product Categories	Air care products (PC3)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.48 g

Duration:
Covers exposure up to 640 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS7: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 1 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 0.5 g

Duration:
Covers exposure up to 1.2 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 34 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS8: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 10 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 2 g

Duration:
Covers exposure up to 10.2 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 34 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS9: Consumer Contributing Scenario: Consumer (PC4)

Product Categories	Anti-freeze and de-icing products (PC4)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 4 g

Duration:
Covers exposure up to 15 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 34 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS10: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 15 g

Duration:
Covers exposure up to 30 min/day
Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS11: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 27 g

Duration:
Covers exposure up to 19.8 min/day
Frequency:
Covers exposure up to 128 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS12: Consumer Contributing Scenario: Consumer (PC8)

Product Categories	Biocidal products (PC8)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 35 g

Duration:
Covers exposure up to 10.2 min/day
Frequency:
Covers exposure up to 128 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS13: Consumer Contributing Scenario: Consumer (PC9a)

Product Categories	Coatings and paints, thinners, paint removers (PC9a)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 491 g

Duration:
Covers exposure up to 120 min/day
Frequency:
Covers exposure up to 3 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS14: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

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

Amounts used:
Amount per use 2.2 g

Frequency:
Covers exposure up to 4 days per year

3.2. CS15: Consumer Contributing Scenario: Consumer (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 73 g

Duration:
Covers exposure up to 10.2 min/day
Frequency:
Covers exposure up to 6 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS16: Consumer Contributing Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 15 g

Duration:
Covers exposure up to 30 min/day

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS17: Consumer Contributing Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 5 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 27 g

Duration:
Covers exposure up to 19.8 min/day

Frequency:
Covers exposure up to 128 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS18: Consumer Contributing Scenario: Consumer (PC35)

Product Categories	Washing and cleaning products (PC35)

Product (article) characteristics

Concentration of substance in product:
Covers concentrations up to 15 %

Amount used, frequency and duration of use/exposure

Amounts used:
Amount per use 35 g

Duration:
Covers exposure up to 10.2 min/day

Frequency:
Covers exposure up to 128 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³
Ventilation rate: Covers use under typical household ventilation.

3.2. CS19: Consumer Contributing Scenario: Consumer (PC38)

Product Categories	Welding and soldering products, flux products (PC38)

Product (article) characteristics

Concentration of substance in product:

Covers concentrations up to 20 %

Amount used, frequency and duration of use/exposure

Amounts used:

Amount per use 12 g

Duration:

Covers exposure up to 60 min/day

Frequency:

Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Room size: Covers use in room size of 20 m³

Ventilation rate: Covers use under typical household ventilation.

3.3 Exposure estimation and reference to its source

3.3. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

Release route	Release rate	Release estimation method
Air	0.95 %	N/A
Water	0.025 %	N/A
soil	0.025 %	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.

4. ES 4 Use at industrial site

4.1 TITLE SECTION

Exposure Scenario name	Metal working fluids / rolling oils
Date - Version	19/09/2019 - 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	ERC4

Worker Contributing Scenario

CS2 Industrial	PROC5 - PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC9 - PROC10 - PROC13 - PROC17

4.2 Conditions of use affecting exposure

4.2. CS1: Environment Contributing Scenario: Covered by (ERC4)

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

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 site tonnage 20 t(onnes)/year

Maximum allowable site tonnage (MSafe): 74100 kg/day

Release type: Continuous release

Emission days: 20 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Treat air emission to provide the required removal efficiency of (%):	Air - minimum efficiency of: 70 %
Prevent discharge of undissolved substance to or recover from onsite wastewater. Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination. Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.	

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant

Water - minimum efficiency of: = 96 %

STP effluent (m³/day): 2000

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

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100

Local freshwater dilution factor: 10

4.2. CS2: Worker Contributing Scenario: Industrial (PROC5, PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17)

Process Categories	Mixing or blending in batch processes - 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 - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations (PROC5, PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

> 100 hPa

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

Remove spills immediately
Use in contained systems
Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection

Wear chemically resistant gloves (tested to EN374) in combination with specific activity training.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

4.3 Exposure estimation and reference to its source

4.3. CS1: Environment Contributing Scenario: Covered by (ERC4)

Release route	Release rate	Release estimation method
Air	0.02 %	N/A
Water	3 %	N/A
soil	0 %	N/A

4.4 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.

5. ES 5 Widespread use by professional workers

5.1 TITLE SECTION

Exposure Scenario name	Metal working fluids / rolling oils
Date - Version	19/09/2019 - 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 Covered by	ERC8a - ERC8d

Worker Contributing Scenario

CS2 General use from professional operators	PROC5 - PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC9 - PROC10 - PROC11 - PROC13 - PROC17

5.2 Conditions of use affecting exposure

5.2. CS1: Environment Contributing Scenario: Covered by (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)

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 site tonnage 0.00015 t(onnes)/year

Maximum allowable site tonnage (MSafe): 2.11 kg/day

Release type: Continuous release

Emission days: 365 days per year

Technical and organisational conditions and measures

Control measures to prevent releases

Required removal efficiency for wastewater can be achieved using onsite/offsite technologies, either alone or in combination.
Required removal efficiency for air can be achieved using on-site technologies, either alone or in combination.

Conditions and measures related to sewage treatment plant

STP type:

Municipal Sewage Treatment Plant
Water - minimum efficiency of: = 96.9 %

STP effluent (m^3/day): 2000

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

Waste treatment

External treatment and disposal of waste should comply with applicable local and/or national regulations.

Other conditions affecting environmental exposure

Local marine water dilution factor: 100
Local freshwater dilution factor: 10

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

Additional Good Practice Advice:

Sludge is disposed or recovered.

5.2. CS2: Worker Contributing Scenario: General use from professional operators (PROC5, PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17)

Process Categories	Mixing or blending in batch processes - 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 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations (PROC5, PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17)

Product (article) characteristics

Physical form of product:

Liquid

Vapour pressure:

> 100 hPa

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Technical and organisational conditions and measures

Technical and organisational measures

Remove spills immediately
Use in contained systems
Avoid direct eye contact with product, also via contamination on hands.

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

Personal protection

Wear suitable gloves tested to EN374 and sleeves. For further specification, refer to section 8 of the SDS

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

5.3 Exposure estimation and reference to its source

5.3. CS1: Environment Contributing Scenario: Covered by (ERC8a, ERC8d)

Release route	Release rate	Release estimation method
Air	0.6 %	N/A
Water	0.05 %	N/A
soil	0.05 %	N/A

5.4 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, 08/07/2019

Substance identity	
Chemical name	Hydrocarbons C9-C11 cyclics-iso-alkanes <2% aromatics, declass. ex Notes "P"
CAS No.	64742-48-9
EINECS No.	919-857-5

Table of contents

1. ES 1 Formulation or re-packing; Solvent-based process

1.1 TITLE SECTION

Exposure Scenario name	Formulation and (re) packaging of substances and mixtures
Date - Version	28/06/2019 - 1.0
Life Cycle Stage	Formulation or re-packing
Main user group	Industrial uses
Sector(s) of use	Industrial uses (SU3) - Formulation [mixing] of preparations and/or re-packaging (SU10)

Environment Contributing Scenario	
CS1 Wet formulation	ERC2
Worker Contributing Scenario	
CS2 General exposures	PROC5 - PROC1 - PROC2 - PROC3 - PROC4 - PROC8a - PROC8b - PROC9 - PROC14 - PROC15

1.2 Conditions of use affecting exposure

1.2. CS1: Environment Contributing Scenario: Wet formulation (ERC2)

Environmental release categories	Formulation into mixture (ERC2)

Product (article) characteristics

Physical form of product:

Liquid

1.2. CS2: Worker Contributing Scenario: General exposures (PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC14, PROC15)

Process Categories	Mixing or blending in batch processes - 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 - Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Tabletting, compression, extrusion, pelletisation, granulation - Use as laboratory reagent (PROC5, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC14, PROC15)

Product (article) characteristics

Physical form of product:

Liquid

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature. 20°C

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 Use at industrial site

2.1 TITLE SECTION

Exposure Scenario name	Lubricating agent
Date - Version	28/06/2019 - 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 - ERC7

Worker Contributing Scenario

CS2 General measures applicable to all activities	PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC9 - PROC10 - PROC13 - PROC17 - PROC18

2.2 Conditions of use affecting exposure

2.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4, ERC7)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - Use of functional fluid at industrial site (ERC4, ERC7)

2.2. CS2: Worker Contributing Scenario: General measures applicable to all activities (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18)

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 - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations - General greasing/lubrication at high kinetic energy conditions (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18)

Product (article) characteristics

Physical form of product:

Liquid

Amount used, frequency and duration of use/exposure

Duration:

Covers daily exposures up to 8 hours

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

Personal protection

Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

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 Use at industrial site

3.1 TITLE SECTION

Exposure Scenario name	Lubricants - Industrial use
Date - Version	28/06/2019 - 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 - ERC7

Worker Contributing Scenario	
CS2 Lubricants	PROC1 - PROC2 - PROC3 - PROC4 - PROC7 - PROC8a - PROC8b - PROC9 - PROC10 - PROC13 - PROC17 - PROC18

3.2 Conditions of use affecting exposure

3.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC4, ERC7)

Environmental release categories	Use of non-reactive processing aid at industrial site (no inclusion into or onto article) - Use of functional fluid at industrial site (ERC4, ERC7)

Product (article) characteristics

Physical form of product:

Liquid

3.2. CS2: Worker Contributing Scenario: Lubricants (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18)

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 - Chemical production where opportunity for exposure arises - Industrial spraying - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations - General greasing/lubrication at high kinetic energy conditions (PROC1, PROC2, PROC3, PROC4, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17, PROC18)

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

Technical and organisational conditions and measures

Technical and organisational measures

Use in contained systems

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

Personal protection

Wear suitable gloves tested to EN374.

Other conditions affecting worker exposure

Temperature: Assumes use at not more than 20 °C above ambient temperature.

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.

4. ES 4 Widespread use by professional workers

4.1 TITLE SECTION

Exposure Scenario name	Lubricants - Industrial use
Date - Version	28/06/2019 - 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	ERC9a - ERC9b
Worker Contributing Scenario	
CS2 Lubricants	PROC20 - PROC1 - PROC2 - PROC3 - PROC8a - PROC8b - PROC9 - PROC10 - PROC11 - PROC13 - PROC17 - PROC18

4.2 Conditions of use affecting exposure

4.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)

4.2. CS2: Worker Contributing Scenario: Lubricants (PROC20, PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18)

Process Categories	Use of functional fluids in small devices - 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 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations - General greasing/lubrication at high kinetic energy conditions (PROC20, PROC1, PROC2, PROC3, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18)

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

4.3 Exposure estimation and reference to its source

N/A

4.4 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.

5. ES 5 Widespread use by professional workers

5.1 TITLE SECTION

Exposure Scenario name	Lubricants (high power)
Date - Version	28/06/2019 - 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	ERC8a - ERC8d

Worker Contributing Scenario

CS2 Lubricants	PROC20 - PROC1 - PROC2 - PROC3 - PROC4 - PROC8a - PROC8b - PROC9 - PROC10 - PROC11 - PROC13 - PROC17 - PROC18

5.2 Conditions of use affecting exposure

5.2. 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)

Product (article) characteristics

Physical form of product:

Liquid

5.2. CS2: Worker Contributing Scenario: Lubricants (PROC20, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18)

Process Categories	Use of functional fluids in small devices - 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 - Chemical production where opportunity for exposure arises - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities - Transfer of substance or mixture (charging and discharging) at dedicated facilities - Transfer of substance or mixture into small containers (dedicated filling line, including weighing) - Roller application or brushing - Non industrial spraying - Treatment of articles by dipping and pouring - Lubrication at high energy conditions in metal working operations - General greasing/lubrication at high kinetic energy conditions (PROC20, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18)

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

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

Personal protection

Wear suitable gloves tested to EN374.

5.3 Exposure estimation and reference to its source

N/A

5.4 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.

6. ES 6 Consumer use; Various products (PC1, PC24, PC31)

6.1 TITLE SECTION

Exposure Scenario name	Lubricants (low release)
Date - Version	28/06/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Adhesives, sealants (PC1) - Lubricants, greases, release products (PC24) - Polishes and wax blends (PC31)
Environment Contributing Scenario	
CS1 Solvent-based process	ERC9a - ERC9b
Consumer Contributing Scenario	
CS2 Lubricants	

6.2 Conditions of use affecting exposure

6.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

6.2. CS2: Consumer Contributing Scenario: Lubricants

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

Frequency:

Covers exposure up to 1 events per day

Other conditions affecting consumers exposure

Temperature: Covers use at ambient temperatures.

6.3 Exposure estimation and reference to its source

N/A

6.4 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.

7. ES 7 Consumer use; Various products (PC1, PC24, PC31)

7.1 TITLE SECTION

Exposure Scenario name	Lubricants (low release)
Date - Version	01/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Adhesives, sealants (PC1) - Lubricants, greases, release products (PC24) - Polishes and wax blends (PC31)

Environment Contributing Scenario

CS1 Solvent-based process	ERC9a - ERC9b

Consumer Contributing Scenario

CS2 Lubricants	PC24
CS3 Lubricants	PC1
CS4 Lubricants	PC31 - PC23_1, PC31_1 - PC23_2, PC31_2

7.2 Conditions of use affecting exposure

7.2. CS1: Environment Contributing Scenario: Solvent-based process (ERC9a, ERC9b)

Environmental release categories	Widespread use of functional fluid (indoor) - Widespread use of functional fluid (outdoor) (ERC9a, ERC9b)

7.2. CS2: Consumer Contributing Scenario: Lubricants (PC24)

Product Categories	Lubricants, greases, release products (PC24)

Product (article) characteristics

Physical form of product:

Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:

Covers percentage substance in the product up to 100 %.

Amount used, frequency and duration of use/exposure

Frequency:

Covers exposure up to 1 uses per day

Frequency:

Covers exposure up to 4 days per year

Other conditions affecting consumers exposure

Indoor use

Room size: Covers use in a one car garage (>34 m^3) under typical ventilation.

Temperature: Covers use at ambient temperatures.

Ventilation rate: Covers use under typical household ventilation.

7.2. CS3: Consumer Contributing Scenario: Lubricants (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers concentrations up to 30 %

Amount used, frequency and duration of use/exposure

Frequency:
Covers use up to 1 uses per day

Frequency:
Covers exposure up to 365 days per year

Other conditions affecting consumers exposure

Indoor use
Room size: Covers use in room size of 20 m³
Temperature: Covers use at ambient temperatures.
Ventilation rate: Covers use under typical household ventilation.

7.2. CS4: Consumer Contributing Scenario: Lubricants (PC31)

Product Categories	Polishes and wax blends (PC31)
Product (Sub-)Categories	Polishes, wax/cream (floor, furniture, shoes) - Polishes, spray (furniture, shoes) (PC23_1, PC31_1, PC23_2, PC31_2)

Product (article) characteristics

Physical form of product:
Liquid, vapour pressure < 0,5 kPa at STP

Concentration of substance in product:
Covers concentrations up to 50 %

Amount used, frequency and duration of use/exposure

Frequency:
Covers exposure up to 1 uses per day

Frequency:
Covers exposure up to 29 days per year

Other conditions affecting consumers exposure

Indoor use
Room size: Covers use in room size of 20 m³

7.3 Exposure estimation and reference to its source

N/A

7.4 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.

8. ES 8 Consumer use; Adhesives, sealants (PC1)

8.1 TITLE SECTION

Exposure Scenario name	Lubricants (high release)
Date - Version	01/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Adhesives, sealants (PC1)

Environment Contributing Scenario	
CS1 Waste management	ERC8a

Consumer Contributing Scenario	
CS2 Lubricants	PC1

8.2 Conditions of use affecting exposure

8.2. CS1: Environment Contributing Scenario: Waste management (ERC8a)

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

8.2. CS2: Consumer Contributing Scenario: Lubricants (PC1)

Product Categories	Adhesives, sealants (PC1)

Product (article) characteristics

Physical form of product:

Liquid

8.3 Exposure estimation and reference to its source

N/A

8.4 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.

9. ES 9 Consumer use; Various products (PC39, PC28)

9.1 TITLE SECTION

Exposure Scenario name	Cosumer other uses
Date - Version	01/07/2019 - 1.0
Life Cycle Stage	Consumer use
Main user group	Consumer uses
Sector(s) of use	Consumer uses (SU21)
Product Categories	Cosmetics, personal care products (PC39) - Perfumes, fragrances (PC28)

Environment Contributing Scenario

CS1 Processing of organic liquids	ERC8a - ERC8d

Consumer Contributing Scenario

CS2 Consumer	PC39 - PC28

9.2 Conditions of use affecting exposure

9.2. CS1: Environment Contributing Scenario: Processing of organic liquids (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)

9.2. CS2: Consumer Contributing Scenario: Consumer (PC39, PC28)

Product Categories	Cosmetics, personal care products - Perfumes, fragrances (PC39, PC28)

Product (article) characteristics

Physical form of product:

Liquid

9.3 Exposure estimation and reference to its source

N/A

9.4 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.