

Kind Customer

We send you the documentation concerning the product supplied: **S45 F**

- **Information letter concerning Regulation (EU) 2019/1148 on the marketing and use of explosives precursors**
- **Material Safety Data Sheet**

For further information and clarifications, please contact us at safety@kerakoll.com

Best regards

KERAKOLL
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41049 SASSUOLO (MO)
Cod. Fis. 01174510360 - P.IVA 01174510360

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23181 2 - Reg. Imp. / Cod. Fisc. / P. Iva IT 011 7451 0360 - Cap. Soc. € 2.000.000,00 i.v.

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Esteemed Customer

Sassuolo, 08/06/2021

Object: provisions of Regulation (EU) 2019/1148 concerning the marketing (including online) and use of Explosives Precursors starting from February 1, 2021.

Kind Customer,

we hereby inform you that starting from 1st of February 2021, provisions of EU 2019/1148 Regulation inherent to Explosive Precursors will be applied.

This new legislation aims to reinforce the system of controlling the availability on the market of Explosive Precursor, in order to limit the availability of certain substances for private consumers and to guarantee the adequate reporting of suspicious transactions.

Substances included in the field of application are listed in the respective annex of the regulation:

- Annex I – Explosive Precursors subject to RESTRICTION
- Annex II - Explosive Precursors subject to SEGNALATION

The legislations is applied to pure substances and to mixtures containing those components (depending from the concentration) and the fulfilments of the requirements for each subjects involved in the supply chain are dependent from the type of precursors.

Within the product supplied from us, there are not precursors subject to restriction.

REGULATED PRECURSORS

To date, the product S45 F that we supply, contains the following substance included in the precursors list: **Acetone N° CAS 67-64-1**

A regulated explosive precursor:

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- is available for a professional user or for a private consumer if it is possible to demonstrate to the national authority in charge of inspections, that the staff involved in sales is:

- a) Aware of which of the marketed products contains regulated explosive precursors;
- b) Educated about the obligation set by the legislation.

- is available to an economic operator only after informing it that that the acquisition, introduction, detention or the use by private consumers is subject to reporting (see next point).

Reporting of suspicious transaction, shipments, disappearances and thefts

Economic operators and online markets must report suspicious transactions, after considering all circumstances, especially in case that the customer acts as follow:

- a) He is not able to give accurate description of the predicted use of explosive precursors
- b) He seems to be unrelated to the predicted use of the regulated explosive precursor or he cannot explain it in a reasonable way.
- c) He has the intention of buying regulated explosive precursors in an unusual quantity, combination or concentration for a legit use.
- d) He is reluctant to give a document to validate his identity, place of residence or the status of professional user or of economic operator
- e) He insists on using an unusual payment method, like large amount of cash for instance.

Economic operators and on-line markets may reject the suspicious transaction and they can report it within 24 hours to the national point of contact of the member state where the transaction was made or attempted.

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Economic operators and professional users report to the national contact point of the member state, disappearances and significant thefts of regulated explosive precursors within 24 hours from the detection.

CONTACT POINTS:

- AUSTRIA: Bundeskriminalamt - Meldestelle Drogenausgangsstoffe; E-mail: Precursor@bmi.gv.at; Tel. +43 1 24836 985372
- BELGIUM: Federale politie - Police fédérale - Föderale Polizei; explosiveprecursor@police.belgium.eu ; Tel.: 00 32 26 42 63 20 (24h/24h); Tel Duty Officer: 00 32 475 29 28 88 (24h/24h)
- BULGARIA: Министерство на вътрешните работи; тел. (+359) 2 9828 336 тел. (+359) 2 9828 106; gdbop@mvr.bg
- CROATIA: Ministarstvo unutarnjih poslova, Ravnateljstvo policije; Email: prekursori@mup.hr ; Tel: +38513788776
- CYPRUS: Αρχηγείο Αστυνομίας; Telephone1: + 357 22 808262 (during office hours) Telephone2: + 357 99 629353 (available 24/7); deptc.cto@police.gov.cy
- CZECH REPUBLIC: Český báňský úřad; email: Info@cbusbs.cz ; tel. +420 721 329 137; Policie - National Organized Crime Agency tel.: +420 974 842 333 E-mail: ncoz.t4@pcr.cz; ncoz.nkbt.info@pcr.cz;
- DENMARK: National Situation and Operations Centre; email: pol-nsioc@politi.dk; tel: +4545153400
- ESTONIA: Politsei- ja Piirivalveamet; Phone: +372 612 3810 and 112; E-mail: spoc@politsei.ee
- FINLAND: Keskusrikospoliisi; Tel. +358 504 177 229; E-mail: lahtoaine.krp@poliisi.fi
- FRANCE: Pôle judiciaire de la Gendarmerie nationale; Plateau d'investigation Armes à feu et explosifs (PIXAF); Adresse mail : pixaf@gendarmerie.interieur.gouv.fr; Téléphone : +33 1 78 47 34 29
- GERMANY: Landeskriminalamt; Emergency line: 110
 - Baden-Württemberg, 0711/5401-3333, stuttgart.lka@polizei.bwl.de
 - Bayern, 089/1212-0, blka@polizei.bayern.de
 - Berlin, 030/4664-950130, lka5fuedsteuerung@polizei.berlin.de
 - Brandenburg, 03334/388-0, monitoring.fdlka@polizei.brandenburg.de
 - Bremen, 0421/362-3888, landeskriminalamt@polizei.bremen.de
 - Hamburg, 040/4286-72610, lkahh26.kkvd@polizei.hamburg.de
 - Hessen, 0611/83-1186, ful.hlka@polizei.hessen.de
 - Mecklenburg-Vorpommern, 03866/64-9003, lka@polmv.de

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- Niedersachsen, 0511/26262-0, liz@lka.polizei.niedersachsen.de
- Nordrhein-Westfalen, 0211/939-0, poststelle.lka@polizei.nrw.de
- Rheinland-Pfalz, 06131/65-2350, lka.21.ldd@polizei.rlp.de
- Saarland, 0681/962-2133, lpp212@polizei.slpol.de
- Sachsen, 0351/855-0, lka@polizei.sachsen.de
- Sachsen-Anhalt, 0391/250-0, lka@polizei.sachsen-anhalt.de
- Schleswig-Holstein, 0431/160-0, lob.glfz@polizei.landsh.de
- Thüringen, 0361/341-1224, auswertung.lka@polizei.thueringen.de
- GREECE: Ελληνική Αστυνομία; Tel: +302106914916; email: dka_opla@police.gr
- HUNGARY: National Police Headquarters; Tel.: 061/443-5500; Tel. 107; Tel. 112; Email: orfkitkarsag@orfk.police.hu;
- IRELAND: An Garda Síochána; Phone: +353 1 6661782 (office hours); or Garda 24hr Confidential Line: 1800 666 111; or 999 or 112 (in the event of a serious or imminent threat); Email: Liaisonandprotection_DV@garda.ie
- ITALY: Ministero dell'Interno; Tel.: +390646542182; precursori@dcpc.interno.it
- LATVIA: Valsts drošības dienests; Tel. (+371) 67208964; E-mail: kontaktpunkts@vdd.gov.lv
- LITHUANIA: Policijos Departamentas, Prie vidaus reikalų ministerijos; Phone +370 5 271 9949; e-mail: leidimai.pd@policija.lt
- LUXEMBOURG: Police grand-ducale; Direction générale – Service des relations internationales; Point de contact central – INTERPOL – EUROPOL – SIRENE; Courriel : sri@police.etat.lu; Tel : (+352) 4997-2575; Fax : (+352) 4997-2598
- MALTA: Competition and Consumer Affairs Authority; Tel. (+356) 23952000; Fax : (+356) 21242420; E-mail: info@mccaa.org.mt
- NETHERLANDS: Meldpunt Verdachte Transacties Chemicaliën; Belastingdienst / Nationale politie; Tel. 0031 88 154 00 00 (24/7); E-mail: precursoren@belastingdienst.nl (08-17 hrs)
- NORWAY: Den nasjonale enhet for bekjempelse av organisert og annen alvorlig kriminalitet (Kripos); Tel. + 47 23 20 80 10; E-mail: kripos.kjemiskestoffer@politiet.no
- POLAND: Komenda Główna Policji; Puławska 148/150, 02-624; Warszawa tel. +48 226 012 012 tel; +48 22 60 116 40; e-mail: prekursory@policja.gov.pl
- Ministério da Administração Interna - Polícia de Segurança Pública; tlf: +351 218111000; Fax: + 351 21 3874772; E-mail: depaex@psp.pt
- ROMANIA: Poliția Română; Tel . +4021/312.78.20; e-mail: anne@politiaromana.ro
- SLOVAKIA: Ministerstvo vnútra; Tel . 00421 - 2/9610 56201; E-mail: prekurzoryvybusnin@minv.sk
- SLOVENIA: Ministrstvo za notranje zadeve – POLICIJA; interpol.ljubljana@policija.si; T. +386 1 428 4780; T. +386 41 713 680; T. +386 41 713 699; Fax. +386 1 428 4790
- SPAIN: Ministerio del Interior - Centro de Inteligencia contra el Terrorismo y el Crimen Organizado (CITCO) Tel. +34 91 537 27 66 Tel. +34 91 537 27 26 Tel. +34 91 537 27 33; E-mail: cico@interior.es; E-mail: precursores@interior.es

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- SWEDEN: Polismyndigheten; Tel. 114 14 (+46 77 114 14 00 from abroad); E-mail: prekursor@polisen.se
- SWITZERLAND: Federal Office of Police – fedpol; National Contact Point for Explosives Precursors; Phone: +41 58 460 52 10; Email: chemicals@fedpol.admin.ch
- UNITED KINGDOM – GREAT BRITAIN: Metropolitan Police Service; Tel. 0207 230 9066; Tel. 0207 230 8850; E-mail: Chemical.Reporting@Met.Police.UK
- UNITED KINGDOM – NORTHERN IRELAND: Police Service of Northern Ireland; Tel. 0800 789 321; E-mail: Chemical.reporting@psni.pnn.police.uk

The information about the presence of regulated explosive precursors has to be extended along the supply chain, by sending the Material Safety Data Sheet of the product.

Sanctions

Anyone who, without being entitled, introduces into the State territory, holds, uses or makes available to private individuals the substances or mixtures that contain them indicated as precursors of explosives subject to restriction in Annex I and anyone who fails to report the theft or the disappearance of the substances indicated as precursors of regulated explosives included in Annexes I and II, is punished with the sanctions provided by the reference State.

Kind Regards

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Safety Data Sheet

Conforms to Regulation (EC) No. 1907/2006 (REACH), Article 31, Annex II, as amended by Commission Regulation (EU) 2020/878

S45 F

Date of first edition: 7/19/2021

Safety Data Sheet dated 7/19/2021

version 7

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

1.1. Product identifier

Mixture identification:

Trade name: S45 F

Trade code: 28022020-13

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

Recommended use: Adhesives, sealants

Uses advised against: Not available

1.3. Details of the supplier of the safety data sheet

Company: KERAKOLL S.p.A.

Via dell'Artigianato, 9

41049 Sassuolo (MODENA) - ITALY

Tel.+39 0536 816511 Fax. +39 0536816581

safety@kerakoll.com

1.4. Emergency telephone number

European emergency phone number 112

Kerakoll Italy - +39-0536-816511

Ireland

Poison information centre: 01 809 2166 (Daily 8am-10pm)

In case of emergency call 999 or 112

Malta

In case of emergency call: +356 2395 2000 (24h)

SECTION 2: Hazards identification



2.1. Classification of the substance or mixture

Regulation (EC) n. 1272/2008 (CLP)

Flam. Liq. 2 Highly flammable liquid and vapour.

Eye Irrit. 2 Causes serious eye irritation.

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

Regulation (EC) No 1272/2008 (CLP):

Pictograms and Signal Words



Danger

Hazard statements

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H411 Toxic to aquatic life with long lasting effects.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P370+P378	In case of fire, use a CO2 fire extinguisher to extinguish.
P501	Dispose of contents/container in accordance with applicable regulations.

Special Provisions:

EUH066	Repeated exposure may cause skin dryness or cracking.
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Contains

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane
acetone; propan-2-one; propanone
ethyl acetate

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 $\geq 0.1\%$.

Other Hazards: No other hazards

SECTION 3: Composition/information on ingredients

3.1. Substances

N.A.

3.2. Mixtures

Mixture identification: S45 F

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

Qty	Name	Ident. Numb.	Classification	Registration Number
25-50 %	Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	EC:926-605-8	Flam. Liq. 2, H225; STOT SE 3, H336; Asp. Tox. 1, H304; Aquatic Chronic 2, H411, M-Chronic:1, EUH066, DECLP(*)	01-2119486291-36
20-24,9 %	acetone; propan-2-one; propanone	CAS:67-64-1 EC:200-662-2 Index:606-001-00-8	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119471330-49
5-9,9 %	ethyl acetate	CAS:141-78-6 EC:205-500-4 Index:607-022-00-5	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336, EUH066	01-2119475103-46
< 0,3 %	zinc oxide	CAS:1314-13-2 EC:215-222-5 Index:030-013-00-7	Aquatic Acute 1, H400; Aquatic Chronic 1, H410, M-Chronic:1, M-Acute:1	01-2119463881-32

(*)DECLP Substance classified in accordance with Note P, Annex VI of EC Regulation (EC) 1272/2008.

The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (Einecs No 200-753-7). When the substance is not classified as a carcinogen at least the precautionary statements (P102-)P260-P262-P301 + P310-P331 shall apply. This note applies only to certain complex oil-derived substances in Part 3.

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 ophthalmologist immediately.

Protect uninjured eye.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and label hazardous.

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

Eye irritation

Eye damages

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).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use a CO2 fire extinguisher to extinguish.

Extinguishing media which must not be used for safety reasons:

None in particular.

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

Suitable material for taking up: absorbing material, organic, sand

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.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

See also section 8 for recommended protective equipment.

7.2. Conditions for safe storage, including any incompatibilities

Store at below 20 °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.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Cool and adequately ventilated.

7.3. Specific end use(s)

Recommendation(s)

None in particular

Industrial sector specific solutions:

None in particular

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community Occupational Exposure Limits (OEL)

Component	OEL Type	Country	Ceiling	Long Term mg/m3	Long Term ppm	Short Term mg/m3	Short Term ppm	Notes
Hydrocarbons, C6-C7, ACGIH isoalkanes, cyclics, <5% n-hexane				400.000				
acetone; propan-2-one; propanone	EU	NNN		1210	500			
	NATIONAL	AUSTRALIA		1185.000	500.000	2375.000	1000.000	
	NATIONAL	BELGIUM		1210.000	500.000	2420.000	1000.000	
	NATIONAL	CANADA			250.000		500.000	Ontario
	NATIONAL	CANADA		1190.000	500.000	2380.000	1000.000	Québec
	NATIONAL	DENMARK		600.000	250.000	1200.000	500.000	
	NATIONAL	FINLAND		1200.000	500.000	1500.000	630.000	
	NATIONAL	FRANCE		1210.000	500.000	2420.000	1000.000	
	NATIONAL	GERMANY		1200.000	500.000	2400.000	1000.000	AGS
	NATIONAL	GERMANY		1200.000	500.000	2400.000	1000.000	DFG
	NATIONAL	HUNGARY		1200.000		2400.000		
	NATIONAL	IRELAND		1210.000	500.000			
	NATIONAL	ITALY		1210.000	500.000			
	NATIONAL	JAPAN			750.000			MHLW
	NATIONAL	JAPAN		470.000	200.000			JSOH
	NATIONAL	LATVIA		1210.000	500.000			
	NATIONAL	NEW ZEALAND		1185.000	500.000	2375.000	1000.000	
	NATIONAL	CHINA		300.000		450.000		
	NATIONAL	POLAND		600.000		1800.000		
	NATIONAL	ROMANIA		1210.000	500.000			
	NATIONAL	SINGAPORE		1780.000	750.000	2380.000	1000.000	
	NATIONAL	KOREA, REPUBLIC OF		1188.000	500.000	1782.000	750.000	
	NATIONAL	SPAIN		1210.000	500.000			
	NATIONAL	SWEDEN		600.000	250.000	1200.000	500.000	
	NATIONAL	SWITZERLAND		1200.000	500.000	2400.000	1000.000	
	NATIONAL	NETHERLANDS		1210.000		2420.000		
	NATIONAL	TURKEY		1210.000	500.000			
	NATIONAL	UNITED STATES OF AMERICA		590.000	250.000			NIOSH
	NATIONAL	UNITED STATES OF AMERICA		2400.000	1000.000			OSHA
	NATIONAL	UNITED KINGDOM OF GREAT		1210.000	500.000	3620.000	1500.000	

		BRITAIN AND NORTHERN IRELAND					
	NATIONAL	ARGENTINA		500.000		750.000	
	NATIONAL	BULGARIA	600.000		1400.000		
	NATIONAL	CZECHIA	800.000		1500.000		
	NATIONAL	CHILE	1040.000	438.000	1782.000	750.000	
	NATIONAL	CROATIA	1210.000	500.000			
	NATIONAL	ESTONIA	1210.000	500.000			
	NATIONAL	GREECE	1780.000		3560.000		
	NATIONAL	INDONESIA	1187.120	250.000	1780.000	500.000	
	NATIONAL	ICELAND	600.000	250.000			
	NATIONAL	LITHUANIA	1210.000	500.000	2420.000	1000.000	
	NATIONAL	MALAYSIA	1187.000	500.000			
	NATIONAL	MEXICO		500.000		750.000	
	NATIONAL	NORWAY	295.000	125.000			
	NATIONAL	PORTUGAL		500.000		750.000	
	NATIONAL	RUSSIAN FEDERATIO N	200.000		800.000		
	NATIONAL	SLOVAKIA	1210.000	500.000			
	NATIONAL	SLOVENIA	1210.000	500.000	2420.000	1000.000	
	NATIONAL	SOUTH AFRICA	1185.000	500.000	2375.000	1000.000	
	NATIONAL	TAIWAN, PROVINCE OF CHINA	475.000	200.000			
	ACGIH	NNN		250		500	A4, BEI - URT and eye irr, CNS impair
	EU	NNN	1210	500			
ethyl acetate	EU	NNN	734	200	1468	400	
	NATIONAL	AUSTRIA	734.000	200.000	1468.000	400.000	
	NATIONAL	BELGIUM	734.000	200.000	1468.000	400.000	
	NATIONAL	CANADA		400.000			Ontario
	NATIONAL	CANADA	1440.000	400.000			Québec
	NATIONAL	DENMARK	540.000	150.000	1080.000	300.000	
	NATIONAL	FINLAND	730.000	200.000	1470.000	400.000	
	NATIONAL	FRANCE	734.000	200.000	1468.000	400.000	
	NATIONAL	GERMANY	730.000	200.000	1460.000	400.000	AGS
	NATIONAL	GERMANY	750.000	200.000	1500.000	400.000	DFG
	NATIONAL	HUNGARY	1400.000		1400.000		
	NATIONAL	IRELAND		200.000		400.000	
	NATIONAL	JAPAN		400.000			MHLW
	NATIONAL	JAPAN	720.000	200.000			JSOH
	NATIONAL	LATVIA	200.000	54.000	1468.000	400.000	JSOH
	NATIONAL	NEW ZEALAND	720.000	200.000			
	NATIONAL	CHINA	200.000		300.000		
	NATIONAL	POLAND	200.000		600.000		
	NATIONAL	ROMANIA	400.000	111.000	500.000	139.000	
	NATIONAL	SINGAPORE	1440.000	400.000			
	NATIONAL	KOREA, REPUBLIC OF	1440.000	400.000			

zinc oxide	NATIONAL	SPAIN	1460.000	400.000				
	NATIONAL	SWEDEN	550.000	150.000	1100.000	300.000		
	NATIONAL	SWITZERLAND	730.000	200.000	1460.000	400.000		
	NATIONAL	UNITED STATES OF AMERICA	1400.000	400.000				NIOSH
	NATIONAL	UNITED STATES OF AMERICA	1400.000	400.000				OSHA
	NATIONAL	UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND	730.000	200.000	1460.000	400.000		OSHA
	NATIONAL	ITALY	734.000	200.000	1468.000	400.000		
	NATIONAL	ARGENTINA		400.000				
	NATIONAL	BULGARIA	1468.000	400.000	734.000	200.000		
	NATIONAL	CZECHIA	700.000		900.000			
	NATIONAL	CHILE	1260.000	350.000				
	NATIONAL	CROATIA	734.000	200.000	1468.000	400.000		
	NATIONAL	ESTONIA	500.000	150.000	1100.000	300.000		
	NATIONAL	GREECE	734.000	200.000	1468.000	400.000		
	NATIONAL	INDONESIA		400.000				
	NATIONAL	ICELAND	540.000	150.000				
	NATIONAL	LITHUANIA	400.000	150.000				
	NATIONAL	LITHUANIA C			1100.000	300.000		
	NATIONAL	MALAYSIA	1440.000	400.000				
	NATIONAL	MEXICO		400.000				
	NATIONAL	NORWAY	734.000	200.000	1468.000	400.000		
	NATIONAL	NETHERLANDS	550.000	150.000	1100.000	300.000		
	NATIONAL	PORTUGAL		400.000				
	NATIONAL	RUSSIAN FEDERATION	50.000		200.000			
	NATIONAL	SLOVAKIA	734.000	200.000	1468.000	400.000		
	NATIONAL	SLOVENIA	734.000	200.000	1468.000	400.000		
	NATIONAL	SOUTH AFRICA	700.000	200.000				
	NATIONAL	TAIWAN, PROVINCE OF CHINA	1440.000	400.000				
	ACGIH	NNN		400				URT and eye irr
	EU	NNN	734	200	1468	400		
	NATIONAL	AUSTRALIA	10.000					This value is for inhalable dust containing no asbestos and < 1% crystalline silica
	NATIONAL	AUSTRALIA	10.000		5.000			Long term and short term: Fume
	NATIONAL	BELGIUM	10.000					
	NATIONAL	CANADA	2.000		10.000			Ontario; Long term and short term: respirable aerosol
	NATIONAL	CANADA	10.000					Quebec
	NATIONAL	FRANCE	10.000					

NATIONAL	JAPAN	1.000			Respirable dust
NATIONAL	JAPAN	4.000			Total dust: Total dust comprises particles with a flow speed of 50 to 80 cm/sec at the entry of a particle sampler
NATIONAL	LATVIA	0.500			
NATIONAL	NEW ZEALAND	10.000	10.000		
NATIONAL	CHINA	3.000	5.000		
NATIONAL	SINGAPORE	10.000			
NATIONAL	SPAIN	10.000			
NATIONAL	SWEDEN	5.000			
NATIONAL	SWITZERLA ND	3.000	3.000		Long term and short term: respirable fraction
NATIONAL	UNITED C STATES OF AMERICA	15.000	5.000		Total dust
NATIONAL	ITALY	2.000	10.000		
NATIONAL	ARGENTINA	5.000	10.000		Long term and short term: fume
NATIONAL	ARGENTINA	10.000			Dust
NATIONAL	AUSTRIA	5.000			
NATIONAL	BULGARIA	5.000	10.000		
NATIONAL	CZECHIA	2.000	5.000		
NATIONAL	CHILE	10.000	4.400		
NATIONAL	KOREA, REPUBLIC OF	5.000	10.000		
NATIONAL	CROATIA	2.000	10.000		Long term: respirable dust
NATIONAL	DENMARK	4.000			
NATIONAL	ESTONIA	5.000			
NATIONAL	FINLAND	2.000	10.000		
NATIONAL	GREECE	5.000	10.000		
NATIONAL	INDONESIA	2.000	10.000		
NATIONAL	IRELAND	2.000	10.000		Long term: respirable fraction
NATIONAL	LITHUANIA	5.000			
NATIONAL	MALAYSIA	5.000	10.000		
NATIONAL	NORWAY	5.000			
NATIONAL	POLAND	5.000	10.000		
NATIONAL	PORTUGAL	2.000	10.000		
NATIONAL	ROMANIA	5.000	10.000		
NATIONAL	RUSSIAN FEDERATIO N	0.500	1.500		
NATIONAL	SOUTH AFRICA	5.000	10.000		
NATIONAL	TAIWAN, PROVINCE OF CHINA	5.000			
NATIONAL	HUNGARY	5.000	20.000		
ACGIH	NNN	2	10		(R) - Metal fume fever

Biological limit values

CAS-No.	Component	Value	UoM	Medium	Biological Indicator	Sampling Period
67-64-1	acetone; propan- 2-one; propanone	80	mg/L	Urine	Acetone	End of turn

Predicted No Effect Concentration (PNEC) values

Component	CAS-No.	PNEC Limit	Exposure Route	Exposure Frequency
acetone; propan-2-one; propanone	67-64-1	10.600 mg/l	Freshwater	
		21.000 mg/l	Intermittent releases (freshwater)	
		1.060 mg/l	Marine water	
		100.000 mg/l	Microorganisms in sewage treatments	
		30.400 mg/kg	Freshwater sediments	
		3.040 mg/kg	Marine water sediments	
ethyl acetate	141-78-6	29.500 mg/kg	Soil	
		240.000 µg/l	Freshwater	
		1.650 mg/l	Intermittent releases (freshwater)	
		24.000 µg/l	Marine water	
		650.000 mg/l	Microorganisms in sewage treatments	
		1.150 mg/kg	Freshwater sediments	
		115.000 µg/kg	Marine water sediments	
		148.000 µg/kg	Soil	
		200.000 mg/kg	Secondary poisoning	

Derived No Effect Level (DNEL) values

Component	CAS-No.	Worker Industry	Worker Professional	Consumer	Exposure Route	Exposure Frequency
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane			5306.000 mg/m ³	1131.000 mg/m ³	Human Inhalation	Long Term, systemic effects
			13964.000 mg/kg	1377.000 mg/kg	Human Dermal	Long Term, systemic effects
				1301.000 mg/kg	Human Oral	Long Term, systemic effects
ethyl acetate	141-78-6		734.000 mg/m ³	367.000 mg/m ³	Human Inhalation	Long Term, systemic effects
			1468.000 mg/m ³	734.000 mg/m ³	Human Inhalation	Short Term, systemic effects
			734.000 mg/m ³	367.000 mg/m ³	Human Inhalation	Long Term, local effects
			1468.000 mg/m ³	734.000 mg/m ³	Human Inhalation	Short Term, local effects
			63.000 mg/kg	37.000 mg/kg	Human Dermal	Long Term, systemic effects
				4.500 mg/kg	Human Oral	Long Term, systemic effects

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:

N.A.

Environmental exposure controls:

N.A.
Hygienic and Technical measures
N.A.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical State Liquid
Color: Light yellow
Odour: Characteristic
Odour threshold: N.A.
pH: N.A.
Kinematic viscosity: > 20,5 mm²/sec (40 °C)
Melting point / freezing point: < 10 °C (50 °F)
Initial boiling point and boiling range: > 36 °C (97 °F)
Flash point: < 23°C
Upper/lower flammability or explosive limits: N.A.
Vapour density: N.A.
Vapour pressure: N.A.
Relative density: 0.90 g/cm³
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.
Flammability: The product is classified Flam. Liq. 2 H225
Volatile Organic compounds - VOCs = 73.9 % ; 665.1 g/l

Particle characteristics:

Particle size: N.A.

9.2. Other information

Miscibility: N.A.
Conductivity: N.A.
Evaporation rate: N.A. No other relevant information

SECTION 10: Stability and reactivity

10.1. Reactivity

Stable under normal conditions

10.2. Chemical stability

Data not available.

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 Preparation

a) acute toxicity	Not classified Based on available data, the classification criteria are not met
b) skin corrosion/irritation	Not classified Based on available data, the classification criteria are not met
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 on main components of the mixture:

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	a) acute toxicity	LD50 Oral Rat = 25.00 ml/Kg	
		LC50 Inhalation Rat = 73860.00 mg/kg	
		LD50 Skin Rat = 5.00 ml/Kg	
acetone; propan-2-one; propanone	a) acute toxicity	LD50 Oral Rat = 5800.00 mg/kg	
		LC50 Inhalation Vapour Rat = 76.00 mg/l 4h	
		LD50 Skin Rabbit > 7400.00 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit Yes	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Negative	Mouse oral route
ethyl acetate	g) reproductive toxicity	No Observed Effect Level Oral Rat = 10000.00 mg/l	
	a) acute toxicity	LD50 Oral Rat = 5620.00 mg/kg	
		LC50 Inhalation Vapour Rat > 22.50 mg/l 6h	No mortality occurred
		LD50 Skin Rabbit > 20000.00 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative 24h	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
zinc oxide	f) carcinogenicity	Genotoxicity Negative	Hamster oral route
	g) reproductive toxicity	No Observed Adverse Effect Level Oral = 13800.00 mg/kg	Mouse
	a) acute toxicity	LD50 Oral Rat > 5000.00000 mg/kg	
		LC50 Inhalation Rat > 5700.00000 mg/m3 4h	
		LD50 Skin Rat > 2000.00000 mg/kg 24h	
	b) skin corrosion/irritation	Skin Irritant Rabbit Negative	
	c) serious eye damage/irritation	Eye Irritant Rabbit No	
	d) respiratory or skin sensitisation	Skin Sensitization Guinea pig Negative	
	f) carcinogenicity	Genotoxicity Negative	
	g) reproductive toxicity	No Observed Adverse Effect Level Oral Rat = 7.20000 mg/kg	

11.2 Information on other hazards

Endocrine disrupting properties:

SECTION 12: Ecological information**12.1. Toxicity**

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

Eco-Toxicological Information:

Toxic to aquatic life with long lasting effects.

List of Eco-Toxicological properties of the product

The product is classified: Aquatic Chronic 2(H411)

List of Eco-Toxicological properties of the components

Component	Ident. Numb.	Ecotox Data
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	EINECS: 926-605-8	a) Aquatic acute toxicity : LC50 Fish oncorhynchus mykiss = 12.00 mg/L 96h a) Aquatic acute toxicity : EC50 Daphnia daphnia magna = 3.00 mg/L 48h a) Aquatic acute toxicity : EC50 Algae pseudokirchneriella subcapitata = 55.00 mg/L 72h
acetone; propan-2-one; propanone	CAS: 67-64-1 - EINECS: 200-662-2 - INDEX: 606-001-00-8	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 5540.00 mg/L 96h OECD 203 a) Aquatic acute toxicity : LC50 Daphnia Daphnia pulex = 8800.00 mg/L 48h OECD 202 b) Aquatic chronic toxicity : NOEC Daphnia Daphnia magna = 2212.00 mg/L OECD 211 - 28days a) Aquatic acute toxicity : NOEC Algae Microcystis aeruginosa = 530.00 mg/L a) Aquatic acute toxicity : NOEC Sludge Activated sludge = 1000.00 mg/L OECD Guideline 209 - 30min d) Terrestrial toxicity : LC50 Worm Eisenia fetida = 0.55 mg/cm2 48h OECD Guideline 207
ethyl acetate	CAS: 141-78-6 - EINECS: 205-500-4 - INDEX: 607-022-00-5	a) Aquatic acute toxicity : LC50 Fish S Gairdneri = 230.00 mg/L 96h b) Aquatic chronic toxicity : NOEC Fish freshwater fish = 6.90 mg/L - 32days a) Aquatic acute toxicity : LC50 Daphnia Daphnia Cucullata = 165.00 mg/L 48h b) Aquatic chronic toxicity : NOEC Daphnia daphnia magna = 2.40 mg/L - 21days a) Aquatic acute toxicity : EC50 Algae S. subspicatus = 5600.00 mg/L 48h c) Bacteria toxicity : NOEC Pseudomonas putida = 650.00 mg/L - 16hr
zinc oxide	CAS: 1314-13-2 - EINECS: 215-222-5 - INDEX: 030-013-00-7	a) Aquatic acute toxicity : LC50 Fish Oncorhynchus Mykiss = 0.16900 mg/L 96h dossier ECHA b) Aquatic chronic toxicity : NOEC Fish Cyprinodontidae , Cyprinidae, Salmonidae and Cottidae = 0.04400 mg/L dossier ECHA a) Aquatic acute toxicity : EC50 Ceriodaphnia dubia = 0.14700 mg/L dossier ECHA - neutral/high pH and low hardness b) Aquatic chronic toxicity : NOEC aquatic invertebrates = 0.01400 mg/L dossier ECHA - 0.014 and 0.400 mg Zn/l a) Aquatic acute toxicity : IC50 Algae Selenastrum capricornutum = 0.13600 mg/L dossier ECHA - neutral/high pH b) Aquatic chronic toxicity : NOEC Algae = 0.06000 mg/L dossier ECHA c) Bacteria toxicity : NOEC Sludge activated sludge = 100.00000 µg/L dossier ECHA d) Terrestrial toxicity : EC10 Worm Lumbricus terrestris = 1634.00000 mg/kg

12.2. Persistence and degradability

Component	Persistence/Degradability:	Test	Value	Notes
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	Readily biodegradable			
acetone; propan-2-one; propanone	Readily biodegradable	Biochemical oxygen demand	90.000	
ethyl acetate	Readily biodegradable	CO2 production	94.000	28days

12.3. Bioaccumulative potential

Component	Bioaccumulation	Test	Value	Notes
acetone; propan-2-one; propanone	Bioaccumulative	BCF - Bioconcentration factor	3.000	
ethyl acetate	Bioaccumulative	BCF - Bioconcentration factor	30.000	aquatic species

12.4. Mobility in soil

N.A.

12.5. Results of PBT and vPvB assessment

No PBT/vPvB Ingredients are present

12.6 Endocrine disrupting propertiesNo endocrine disruptor substances present in concentration $\geq 0.1\%$ **12.7 Other adverse effects**

N.A.

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.

A waste code according to European waste catalogue (EWC) cannot be specified, due to dependence on the usage. Contact an authorized waste disposal service.

Properties of waste which render it hazardous (Annex III, Directive 2008/98/EC):

HP 14: Ecotoxic; HP 3: Flammable; HP 4: Irritant — skin irritation and eye damage

SECTION 14: Transport information**14.1. UN number or ID number**

1133

14.2. UN proper shipping name

ADR-Shipping Name: ADHESIVES containing flammable liquid

IATA-Technical name: ADHESIVES containing flammable liquid

IMDG-Technical name: ADHESIVES containing flammable liquid

14.3. Transport hazard class(es)

ADR-Class: 3

IATA-Class: 3

IMDG-Class: 3

14.4. Packing group

ADR-Packing Group: II

IATA-Packing group: II

IMDG-Packing group: II

14.5. Environmental hazards

Toxic Component most present: Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane

Marine pollutant: Yes

Environmental Pollutant: Yes

IMDG-EMS: F-E, S-D

14.6. Special precautions for user

Road and Rail (ADR-RID) :

ADR exempt: No

ADR-Label: 3

ADR - Hazard identification number: 33

ADR-Special Provisions: 640C

ADR-Transport category (Tunnel restriction code): 2 (D/E)

ADR Limited Quantities: 5 L

ADR Excepted Quantities: E2

Air (IATA) :

IATA-Passenger Aircraft: 353

IATA-Cargo Aircraft: 364

IATA-Label: 3

IATA-Subsidiary hazards: -

IATA-Erg: 3L

IATA-Special Provisioning: A3

Sea (IMDG) :

IMDG-Stowage Code: Category B

IMDG-Stowage Note: -

IMDG-Subsidiary hazards: -

IMDG-Special Provisioning: -

14.7. Maritime transport in bulk according to IMO instruments

N.A.

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. 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. 2020/878

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

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: 3, 40

Restrictions related to the substances contained: None

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

Seveso III category according to Annex 1, part 1	Lower-tier threshold (tonnes)	Upper-tier threshold (tonnes)
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Product belongs to category: P5c	5000	50000
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Product belongs to category: E2	200	500
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Regulation (EU) 649/2012 (PIC regulation):

No Substance Listed

German Water Hazard Class.

Class 2: hazardous for water.

SVHC Substances:

No data available

Regulation (EU) 2019/1148 on the marketing and use of explosives precursors

ACETONE (CAS 67-64-1): ANNEX II - Regulated explosive precursors.

Substance indicated in section 3.2 included in Annex II (regulated precursor).

This product is regulated by Regulation (EU) 2019/1148: all suspicious transactions and significant disappearances and thefts must be reported to the competent national contact point:

GREAT BRITAIN: Metropolitan Police Service - Tel. 0207 230 9066; Tel. 0207 230 8850; E-mail: Chemical.Reporting@Met.Police.UK

NORTHERN IRELAND: Police Service of Northern Ireland - Tel. 0800 789 321; E-mail: Chemical.reporting@psni.pnn.police.uk

MALTA: Competition and Consumer Affairs Authority - Tel. (+356) 23952000; Fax: (+356) 21242420; E-mail: info@mccaa.org.mt

IRELAND: An Garda Síochána - Phone: +353 1 6661782 (office hours); or Garda 24hr Confidential Line: 1800 666 111; or 999 or 112 (in the event of a serious or imminent threat); Email: Liaisonandprotection_DV@garda.ie

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out for the mixture.

SECTION 16: Other information

Code	Description
EUH066	Repeated exposure may cause skin dryness or cracking.
H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

Code	Hazard class and hazard category	Description
2.6/2	Flam. Liq. 2	Flammable liquid, Category 2
3.10/1	Asp. Tox. 1	Aspiration hazard, Category 1
3.3/2	Eye Irrit. 2	Eye irritation, Category 2
3.8/3	STOT SE 3	Specific target organ toxicity — single exposure, Category 3
4.1/A1	Aquatic Acute 1	Acute aquatic hazard, category 1
4.1/C1	Aquatic Chronic 1	Chronic (long term) aquatic hazard, category 1
4.1/C2	Aquatic Chronic 2	Chronic (long term) aquatic hazard, category 2

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
2.6/2	On basis of test data
3.3/2	Calculation method
3.8/3	Calculation method
4.1/C2	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.

Legend to abbreviations and acronyms used in the safety data sheet:

ACGIH: American Conference of Governmental Industrial Hygienists

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

AND: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

ATE: Acute Toxicity Estimate

ATEmix: Acute toxicity Estimate (Mixtures)

BCF: Biological Concentration Factor

BEI: Biological Exposure Index

BOD: Biochemical Oxygen Demand

CAS: Chemical Abstracts Service (division of the American Chemical Society).
 CAV: Poison Center
 CE: European Community
 CLP: Classification, Labeling, Packaging.
 CMR: Carcinogenic, Mutagenic and Reprotoxic
 COD: Chemical Oxygen Demand
 COV: Volatile Organic Compound
 CSA: Chemical Safety Assessment
 CSR: Chemical Safety Report
 DMEL: Derived Minimal Effect Level
 DNEL: Derived No Effect Level.
 DPD: Dangerous Preparations Directive
 DSD: Dangerous Substances Directive
 EC50: Half Maximal Effective Concentration
 ECHA: European Chemicals Agency
 EINECS: European Inventory of Existing Commercial Chemical Substances.
 ES: Exposure Scenario
 GefStoffVO: Ordinance on Hazardous Substances, Germany.
 GHS: Globally Harmonized System of Classification and Labeling of Chemicals.
 IARC: International Agency for Research on Cancer
 IATA: International Air Transport Association.
 IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).
 IC50: half maximal inhibitory concentration
 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.
 IRCCS: Scientific Institute for Research, Hospitalization and Health Care
 KAFH: Keep Away From Heat
 KSt: Explosion coefficient.
 LC50: Lethal concentration, for 50 percent of test population.
 LD50: Lethal dose, for 50 percent of test population.
 LDLo: Leathal Dose Low
 N.A.: Not Applicable
 N/A: Not Applicable
 N/D: Not defined/ Not available
 NA: Not available
 NIOSH: National Institute for Occupational Safety and Health
 NOAEL: No Observed Adverse Effect Level
 OSHA: Occupational Safety and Health Administration.
 PBT: Persistent, Bioaccumulative and Toxic
 PGK: Packaging Instruction
 PNEC: Predicted No Effect Concentration.
 PSG: Passengers
 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.
 TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).
 vPvB: Very Persistent, Very Bioaccumulative.
 WGK: German Water Hazard Class.



Exposure Scenario

Ethyl acetate

Exposure Scenario, 13/07/2021

Substance identity	
	Ethyl acetate
CAS No.	141-78-6
INDEX No.	607-022-00-5
EINECS No.	205-500-4
Registration number	01-2119475103-46

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1. **ES 1** Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)

1. ES 1		Widespread use by professional workers; Coatings and paints, thinners, paint removers (PC9a)	
1.1 TITLE SECTION			
Exposure Scenario name	Professional application of coatings and inks by brush or roller - Handling and dilution of concentrates		
Date - Version	13/07/2021 - 1.0		
Life Cycle Stage	Widespread use by professional workers		
Main user group	Professional uses		
Sector(s) of use	Professional uses (SU22)		
Product Categories	Coatings and paints, thinners, paint removers (PC9a)		
Environment Contributing Scenario			
CS1	ERC8a - ERC8d		
Worker Contributing Scenario			
CS2 Handling and dilution of concentrates	PROC8a		
CS3 Handling and dilution of concentrates	PROC10		
1.2 Conditions of use affecting exposure			
1.2. CS1: Environment Contributing Scenario (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)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Concentration of substance in product: Covers percentage substance in the product up to 100 %.			
1.2. CS2: Worker Contributing Scenario: Handling and dilution of concentrates (PROC8a)			
Process Categories	Transfer of substance or mixture (charging and discharging) at non-dedicated facilities (PROC8a)		
<i>Product (article) characteristics</i>			
Physical form of product: Liquid			
Concentration of substance in product: Covers percentage substance in the product up to 100 %.			
<i>Amount used, frequency and duration of use/exposure</i>			
Duration: Covers daily exposures up to 8 hours			
<i>Technical and organisational conditions and measures</i>			
Technical and organisational measures Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour).			
<i>Other conditions affecting worker exposure</i>			
Indoor use Professional use Temperature: Assumes use at not more than 20 °C above ambient temperature.			
1.2. CS3: Worker Contributing Scenario: Handling and dilution of concentrates (PROC10)			

Process Categories	Roller application or brushing (PROC10)
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 Provide a good standard of general ventilation (not less than 3 to 5 air changes per hour). Ensure control measures are regularly inspected and maintained. Provide extract ventilation to points where emissions occur.	
Other conditions affecting worker exposure	
Indoor use Professional use 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 (ERC8a, ERC8d)

Release route	Release rate	Release estimation method
Water	0.014 kg/day	N/A
Air	0.666 kg/day	N/A
soil	0 kg/day	N/A

protection target	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
freshwater	= 0.0004036 mg/L	N/A	< 0.01
freshwater sediment	= 0.002 mg/kg KW	N/A	< 0.01
marine sediment	= 0.0003587 mg/kg KW	N/A	< 0.01
Agricultural soil	= 0.000113 mg/kg KW	N/A	< 0.336

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

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 51.39 mg/m ³	ECETOC TRA worker v3	= 0.07
inhalative, local, long-term	= 51.39 mg/m ³	ECETOC TRA worker v3	= 0.07
dermal, systemic, long-term	= 13.71 mg/kg bw/day	ECETOC TRA worker v3	= 0.218

1.3. CS3: Worker Contributing Scenario: Handling and dilution of concentrates (PROC10)

Exposure route, Health effect, Exposure indicator	Exposure level	Calculation method	Risk Characterization Ratio (RCR)
inhalative, systemic, long-term	= 51.39 mg/m ³	ECETOC TRA worker v3	= 0.07
inhalative, local, long-term	= 51.39 mg/m ³	ECETOC TRA worker v3	= 0.07
dermal, systemic, long-term	= 27.43 mg/kg bw/day	ECETOC TRA worker v3	= 0.435

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.