

Version #: 8,0

Issue date: 11-January-2016

Revision date: 23-November-2023

Supersedes date: 10-October-2023

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

1.1. Product identifier

Trade name or designation of the mixture	SYLVABLEND™ PF 60
Registration number	-
UFI:	Austria: 7EQ0-P0KH-V00G-AJHX Finland: 7EQ0-P0KH-V00G-AJHX Sweden: 7EQ0-P0KH-V00G-AJHX
Synonyms	None.
SDS number	8722
Product code	200000000261

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

Identified uses	Fuel
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Company name	Kraton Chemical B.V.
Address	Transistorstraat 16, 1322 CE Almere, The Netherlands
Phone	+31 36 546 2800
Email address	regulatory.eu@kraton.com

1.4. Emergency telephone number

EU NCEC +44 1865 407 333

General in EU	112 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Austria National Poisons Information Centre	+431 406 4343 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Belgium National Poisons Control Centre	070 245 245 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Bulgaria National Toxicological Information Centre	+359 2 9154 233 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Croatia Poisons Information Centre	+385 1 2348 342 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Cyprus Poison Centre	1401 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Czech Republic National Poisons Information Centre	+420 224 919 293, or +420 224 915 402 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Denmark National Poisons Control Centre	+45 82 12 12 12 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Estonia National Poisons Information Centre	16662 or abroad: (+372) 626 9390 (Monday 9:00AM to Saturday 9:00AM (closed on Sundays and on national holidays). SDS/Product information may not be available for the Emergency Service.)
Finland National Poison Information Centre	(09) 471 977 (direct) or (09) 4711 (exchange) (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
France National Poisons Control Centre	ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Greece Poison Information Centre telephone number	(0030) 2107793777 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

Hungary National Emergency Phone Number	+36-80-201-199 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Iceland Poison Centre	(+354) 543 2222 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Latvia Emergency medical aid	113
Latvia Poison and Drug Information Centre	+371 67042473 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Lithuania Neatidēliotina informācija apsinuodijus	+370 5 236 20 52 or +37068753378 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Malta Accident and Emergency Department	2545 4030 (Hours of operation not provided. SDS/Product information may not be available for the Emergency Service.)
Netherlands National Poisons Information Centre (NVIC)	NVIC: +31 (0)88 755 8000 (Only for the purpose of informing medical personnel in cases of acute intoxications)
Norway Norwegian Poison Information Centre	22 59 13 00 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Portugal Poison Centre	800 250 250 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Romania Biroul RSI si Informare Toxicologica	021.318.36.06 (Available 8:00AM-3:00PM. SDS/Product information may not be available for the Emergency Service.)
Slovakia National Toxicological Information Centre	+421 2 5477 4166 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Spain Toxicology Information Service	+ 34 91 562 04 20 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Sweden National Poison Information Centre	112 - and ask for Poison Information (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)
Switzerland Tox Info Suisse	145 (Available 24 hours a day. SDS/Product information may not be available for the Emergency Service.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Regulation (EC) No 1272/2008 as amended

Health hazards

Skin sensitisation

Category 1

H317 - May cause an allergic skin reaction.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: rosin; colophony, Tall Oil Pitch Blend

Hazard pictograms



Signal word

Warning

Hazard statements

H317

May cause an allergic skin reaction.

Precautionary statements

Prevention

P261

Avoid breathing dust/fume/gas/mist/vapours/spray.

P280

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

Response

P302 + P352
P333 + P313
P363

IF ON SKIN: Wash with plenty of soap and water.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.

Storage

Not available.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

None.

2.3. Other hazards

After prolonged contact with highly porous materials, this product may spontaneously combust. This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII. The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Tall Oil Pitch Blend	80-99	Proprietary	-	-	
Classification: -					
rosin; colophony	1-20	8050-09-7 232-475-7	01-2119480418-32-0036 01-2119480418-32-0001 01-2119480418-32-0002 01-2119480418-32-0008	650-015-00-7	
Classification: Skin Sens. 1;H317					

List of abbreviations and symbols that may be used above

#: This substance has been assigned Union workplace exposure limit(s).
M: M-factor
PBT: persistent, bioaccumulative and toxic substance.
vPvB: very persistent and very bioaccumulative substance.

Composition comments

The full text for all H-statements is displayed in section 16.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

4.1. Description of first aid measures

Inhalation

Move to fresh air. Call a physician if symptoms develop or persist.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

Eye contact

Rinse with water. Get medical attention if irritation develops and persists.

Ingestion

Rinse mouth. Get medical attention if symptoms occur.

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

May cause an allergic skin reaction. Dermatitis. Rash.

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

Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards

Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.

5.1. Extinguishing media

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

During fire, gases hazardous to health may be formed. Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons.

5.3. Advice for firefighters

Special protective equipment for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Special fire fighting procedures

Wear suitable protective equipment. Move containers from fire area if you can do so without risk.

Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Wear appropriate personal protective equipment.

For emergency responders

Keep unnecessary personnel away.

6.2. Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

6.3. Methods and material for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.

Small Spills: Absorb spill with vermiculite or other inert material. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

Not available.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material. May auto-oxidize with sufficient heat generation to ignite if spread (as a thin film) or absorbed on porous or fibrous material. Contaminated rags and cloths must be put in fireproof containers for disposal. Avoid breathing mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices. Follow all SDS/label precautions even after container is emptied because they may retain product residues.

7.2. Conditions for safe storage, including any incompatibilities

Do not store in direct sunlight. Store in original tightly closed container. Keep containers closed when not in use. Store at ambient temperature and atmospheric pressure.

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits****Croatia. OELs (GVI). Regulation on Protection of Workers against Exposure to Dangerous Chemicals at Work, OELs and Biological Limit Values, Annex I (NN 91/2018), as amended**

Components	Type	Value	Form
rosin; colophony (CAS 8050-09-7)	MAC	0,05 mg/m3	Fume.
	STEL	0,15 mg/m3	Fume.

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
rosin; colophony (CAS 8050-09-7)	TWA	1 mg/m3	Dust, fume, inhalable aerosol fraction

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
rosin; colophony (CAS 8050-09-7)	VME	0,1 mg/m3

Regulatory status: Indicative limit (VL)

Ireland. Occupational Exposure Limits

Components	Type	Value
rosin; colophony (CAS 8050-09-7)	STEL	0,15 mg/m3
	TWA	0,05 mg/m3

Italy. Occupational Exposure Limits

Components	Type	Value	Form
rosin; colophony (CAS 8050-09-7)	TWA	0,001 mg/m3	Inhalable fraction.

Latvia. OELs. Occupational exposure limit values of chemical substances in work environment

Components	Type	Value
rosin; colophony (CAS 8050-09-7)	TWA	4 mg/m3

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
rosin; colophony (CAS 8050-09-7)	TLV	0,1 mg/m3

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value
rosin; colophony (CAS 8050-09-7)	TWA	0,1 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
rosin; colophony (CAS 8050-09-7)	STEL	0,15 mg/m3	Fume.
	TWA	0,05 mg/m3	Fume.

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no effect levels (DNELs)

General population

Components	Value	Assessment factor	Notes
rosin; colophony (CAS 8050-09-7)			
Long-term, Systemic, Dermal	1,065 mg/kg bw/day	200	Repeated dose toxicity
Long-term, Systemic, Oral	1,065 mg/kg bw/day	200	Repeated dose toxicity
Tall Oil Pitch Blend (CAS Proprietary)			
Long-term, Systemic, Dermal	5 mg/kg bw/day	10	Repeated dose toxicity
Long-term, Systemic, Inhalation	8,7 mg/m3	10	Repeated dose toxicity
Long-term, Systemic, Oral	5 mg/kg bw/day	10	Repeated dose toxicity

Workers

Components	Value	Assessment factor	Notes
rosin; colophony (CAS 8050-09-7)			
Long-term, Local, Inhalation	10 mg/m3		
Long-term, Systemic, Dermal	2,131 mg/kg bw/day	100	Repeated dose toxicity
Tall Oil Pitch Blend (CAS Proprietary)			
Long-term, Systemic, Dermal	10 mg/kg bw/day	5	Repeated dose toxicity
Long-term, Systemic, Inhalation	35,3 mg/m3	5	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
rosin; colophony (CAS 8050-09-7)			
Freshwater	0,002 mg/l	1000	
Marine water	0 mg/l	10000	
Sediment (freshwater)	0,007 mg/kg		
Sediment (marine water)	0,001 mg/kg		
Soil	0 mg/kg		
STP	1000 mg/l	10	

8.2. Exposure controls

Appropriate engineering controls Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

General information Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection Face shield is recommended. Wear safety glasses with side shields (or goggles).

Skin protection

- Hand protection	Wear appropriate chemical resistant gloves. When handling hot material, use heat resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The most suitable glove must be chosen in consultation with the gloves supplier, who can inform about the breakthrough time of the glove material. Wear suitable gloves tested to EN374. Recommended gloves include rubber, neoprene, nitrile or viton. For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness should be typically greater than 0.35 mm. This recommendation is advisory only. It may not be appropriate for all workplaces. It should not be construed as offering an approval for any specific use scenario. A hazard assessment should be conducted prior to use to ensure suitability of gloves for specific work environments and processes.
- Other	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace. Eye wash fountain and emergency showers are recommended.
Environmental exposure controls	Environmental manager must be informed of all major releases. Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Fume scrubbers, filters or engineering modifications to the process equipment may be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Liquid.
Form	Viscous liquid
Colour	Dark brown
Odour	Strong. Sulphurous.
Melting point/freezing point	Not available.
Boiling point or initial boiling point and boiling range	Not available.
Flammability	Not applicable.
Flash point	>100,0 °C (>212,0 °F)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
pH	Not available.
Kinematic viscosity	Not available.
Solubility	
Solubility (water)	<0,1 %
Partition coefficient (n-octanol/water) (log value)	Not available.
Vapour pressure	<0,001 mm Hg at 20°C
Density and/or relative density	Not available.
Vapour density	Not available.
Particle characteristics	Not available.

9.2. Other information

9.2.1. Information with regard to physical hazard classes No relevant additional information available.

9.2.2. Other safety characteristics

Specific gravity	0,98
Viscosity	> 100 - < 350 cSt cone and plate

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid	Strong oxidising agents. Contact with incompatible materials. Porous material such as rags, paper, insulation, or organic clay may spontaneously combust when wetted with this material.
10.5. Incompatible materials	Strong oxidising agents.
10.6. Hazardous decomposition products	Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause an allergic skin reaction.
Eye contact	Direct contact with eyes may cause temporary irritation.
Tall Oil Pitch Blend	Irritation Corrosion - Eye, No eye irritation; Data is for similar product.; OECD 405 Result: Negative Species: New Zealand white rabbit Organ: Eye
rosin; colophony	Irritation Corrosion - Eye, No eye irritation; OECD 405 Result: negative Species: New Zealand white rabbit Organ: Eye Test Duration: 72 hr
Ingestion	May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure.

Symptoms May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity May cause an allergic skin reaction.

Components	Species	Test Results
rosin; colophony (CAS 8050-09-7)		
Acute		
Dermal		
LD50	Rat Sprague-Dawley rat	> 2000 mg/kg, 24 Hours > 2000 mg/kg, 24 hr At this dose no death occurred.; OECD 402
Oral		
LD50	Rat Sprague-Dawley rat	1000 - 2000 mg/kg 2800 mg/kg OECD 402 5000 - 10000 mg/kg, 14 d Data is for similar product.;
NOEL	Sprague-Dawley rat	1000 ppm, 2 wk
Tall Oil Pitch Blend		
Acute		
Dermal		
LD50	Rat Sprague-Dawley rat	> 2000 mg/kg, 24 Hours > 2000 mg/kg, 14 days At this dose no death occurred.; OECD 402;
Oral		
LD50	Rat Sprague-Dawley rat	2000 mg/kg > 2000 mg/kg, 14 days At this dose no death occurred.; OECD 423;

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Corrosivity

Tall Oil Pitch Blend	Irritation Corrosion - Skin, No skin irritation.; Data is for similar product.; OECD 404 Result: Negative Species: New Zealand white rabbit Organ: Skin Test Duration: 4 hr Observation Period: 72 hr
----------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Corrosivity		
rosin; colophony		Irritation Corrosion - Skin, Non-irritating to the skin.; OECD 404 Result: negative Species: New Zealand white rabbit Test Duration: 72 hr
Serious eye damage/eye irritation	Direct contact with eyes may cause temporary irritation.	
Eye contact		
Tall Oil Pitch Blend		Irritation Corrosion - Eye, No eye irritation; Data is for similar product.; OECD 405 Result: Negative Species: New Zealand white rabbit Organ: Eye
rosin; colophony		Irritation Corrosion - Eye, No eye irritation; OECD 405 Result: negative Species: New Zealand white rabbit Organ: Eye Test Duration: 72 hr
Respiratory sensitisation	Not a respiratory sensitiser.	
Skin sensitisation	May cause an allergic skin reaction.	
Skin Sensitisation		
rosin; colophony		Buehler Test, Not a skin sensitizer.; OECD 406 Result: Negative Species: Guinea pig Organ: Skin
Tall Oil Pitch Blend		Buehler Test, Not a skin sensitizer.; OECD 406 Result: Negative Species: Guinea pig Organ: Skin Test Duration: 24 h Observation Period: 72 h
rosin; colophony		Local Lymph Node Assay - Lowest Concentration Producing Reaction, Not a skin sensitizer.; OECD 429 Result: Negative Species: Mouse Organ: Skin
Germ cell mutagenicity	No data available to indicate product or any components present at greater than 0.1% are carcinogenic.	
Mutagenicity		
rosin; colophony		Ames test, Not mutagenic.; OECD 471; Result: Negative Species: Salmonella typhimurium Chromosome aberration test in vitro, Not mutagenic.; OECD 473; Result: Negative Species: Human
Tall Oil Pitch Blend		Germ Cell Mutagenicity: Ames, Not mutagenic.; OECD 471 Result: Negative Species: Salmonella typhimurium Germ Cell Mutagenicity: Chromosome Abberation, Not mutagenic.; OECD 473 Result: Negative Species: Human Organ: lymphoma cells
rosin; colophony		In vitro gene mutation study in mammalian cells, Not mutagenic.; OECD 476; Result: Negative Species: Mammal
Carcinogenicity	This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.	
Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)		
Not listed.		
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Not classified.	
Aspiration hazard	Not an aspiration hazard.	

Mixture versus substance information No information available.

11.2. Information on other hazards

Endocrine disrupting properties The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test Results	
rosin; colophony (CAS 8050-09-7)			
Aquatic	EC50	Activated sewage sludge	> 10000 mg/l, 3 hr OECD 209;
Algae	EL50	Green algae (Selenastrum capricornutum)	> 1000 mg/l, 72 hr OECD 201;
Crustacea	EL50	Water flea (Daphnia magna)	911 mg/l, 48 hr OECD 202;
Tall Oil Pitch Blend			
Acute	EL50	Activated sewage sludge	> 100 mg/l, 3 hr >> Water solubility; Data is for similar product.; OECD 209
		Green algae (Scenedesmus subspicatus)	> 100 mg/l, 72 hr >> Water solubility; OECD 201
Aquatic			
Acute			
Crustacea	EL50	Daphnia	> 2000 mg/l, 48 hr >> Water solubility; OECD 202
Fish	LL50	Danio (Danio)	> 100 mg/l, 96 hr >> Water solubility; OECD 203

* Estimates for product may be based on additional component data not shown.

12.2. Persistence and degradability

Biodegradability

Percent Degradation (Aerobic Biodegradation)

rosin; colophony

64 % OECD 301B

Result: Readily biodegradable.

Species: Activated sewage sludge

Test Duration: 28 d

Tall Oil Pitch Blend

36 % Closed Bottle test, Not readily biodegradable.; OECD 301D;

Species: Activated sewage sludge

Test Duration: 28 days

12.3. Bioaccumulative potential

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

This mixture does not contain substances assessed to be vPvB / PBT according to Regulation (EC) No 1907/2006, Annex XIII.

12.6. Endocrine disrupting properties

The product does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste

Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code

The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Special precautions	Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
Hazard No. (ADR)	Not assigned.
Tunnel restriction code	Not assigned.
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

RID

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

ADN

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

IATA

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Not regulated as dangerous goods.
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	Not assigned.
14.5. Environmental hazards	No.
14.6. Special precautions for user	Not assigned.

IMDG

14.1. UN number	Not regulated as dangerous goods.
14.2. UN proper shipping name	Tall Oil Pitch - Annex II / Pollution Category Y
14.3. Transport hazard class(es)	
Class	Not assigned.
Subsidiary risk	-
14.4. Packing group	Not assigned.
14.5. Environmental hazards	
Marine pollutant	No.
EmS	Not assigned.
14.6. Special precautions for user	Not assigned.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

UFI:

Austria: 7EQ0-P0KH-V00G-AJHX

Finland: 7EQ0-P0KH-V00G-AJHX

Sweden: 7EQ0-P0KH-V00G-AJHX

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

rosin; colophony (CAS 8050-09-7)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006, as amended.

National regulations

Follow national regulation for work with chemical agents. Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work, as amended

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

Water hazard class

AwSV

WGK1

SECTION 16: Other information

List of abbreviations

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements, which are not written out in full under sections 2 to 15

H317 May cause an allergic skin reaction.

Revision information**Training information****Disclaimer**

Product and Company Identification: EU Poison Centre

Follow training instructions when handling this material.

KRATON CORPORATION urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. The information set forth in this document, as of the date of this document, is based on present knowledge, obtained from reliable sources and made to our reasonable ability and in good faith. Such information is made without any warranty or guarantee whatsoever, and shall establish no legal duty or responsibility on the part of the author(s), their employer or its affiliates. The information given is designed only as guidance and its completeness is not guaranteed. The information is not a guarantee of any specific product properties, features, qualities or specifications.

The information relates only to the specific product designated as shipped, and may not be valid for such product used in combination with any other materials or products, or in any process, unless expressly specified in this document. Nothing set forth in this document shall be construed as a recommendation or license to use any product in conflict with, or as claimed by, any existing patents rights. The user alone must finally determine whether a contemplated use of a product will infringe any such patents. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities are in compliance with all Local, Federal and International Legislation and Local Permits.

We, for ourselves and on behalf of our affiliates, expressly disclaim any and all liability for any damages or injuries arising out of any activities relating in any way to the information set forth in this document. Due to the proliferation of sources for information, we are not and cannot be responsible for SDSs obtained from any other source other than ourselves. If you have obtained an SDS from another source or if you are not sure that the SDS you have is current, please contact us for the most current version.

*KRATON, the KRATON logo, the "Green Super Drop" logo, 1101, ABIETA, AQUATAC, BiaXam, BI-THIN, CENTURY, CENWAX, CirKular+, ELEXAR, ELLAMERA, E-LEXAR, HiMA, IMSS, IPD, NEXAR, PER-SUST, PriMul, RAD-THICK, REFLECTAID, REvolution, SYLFAT, SYLVABIND, SYLVABLEND, SYLVACLEAR, SYLVACOTE, SYLVADERM, SYLVAFUEL, SYLVAGEL, SYLVAGUM, SYLVALITE, SYLVAMIN, SYLVAPINE, SYLVAPRINT, SYLVARES, SYLVAROAD, SYLVAROS, SYLVASOLV, SYLVATAC, SYLVATAL, SYLVATRAXX, TER-SET, UNICLEAR, UNIDYME, UNIFLEX, UNI-REZ, UNI-TAC, and ZONATAC are either trademarks or registered trademarks of Kraton Corporation, or its subsidiaries or affiliates, in one or more, but not all countries.

©2016-2023 Kraton Corporation

Annex to the extended Safety Data Sheet (eSDS)

Table of contents

1. ES Manufacture of substance (SU3, SU8, SU9, ERC1, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15)	14
2. ES Formulation of preparations (SU3, ERC2, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15)	17
3. ES Distribution of substance (SU8, SU9, SU0, SU3, ERC4, ERC5, ERC6a, ERC6b, ERC6c, ERC6d, ERC7, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15)	20
4. ES Intermediate (SU8, SU9, SU0, SU3, ERC6a, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15)	23
5. ES Fuels (SU0, SU3, ERC7, PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15)	26

1 - Exposure Scenario Worker

1. Manufacture of substance

List of use descriptors

Sector(s) of Use SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites. SU8: Manufacture of bulk, large scale chemicals (including petroleum products) SU9: Manufacture of fine chemicals

Name of contributing environmental scenario and corresponding ERC Manufacture of substance
ERC1: Manufacture of substances

List of names of contributing worker scenarios and corresponding PROCs Manufacture of substance
PROC1: Use in closed process, no likelihood of exposure. PROC2: Use in closed, continuous process with occasional controlled exposure. PROC3: Use in closed batch process (synthesis or formulation). PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15: Use as laboratory reagent

2.1.1. Contributing scenario controlling environmental exposure for Manufacture of substance

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical state solid

Amounts used

Annual amount used in the EU 1,285 e5 tons/year
Regional use tonnage (tons/year): 12900 tons/year
Fraction of Regional tonnage used locally: 1
Emission days (days/year): 300

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Type	Emission days (days/year)	Emission factors			Remarks
		Air	Soil	Water	
	300	0,000042	0,0001	0,000000089	

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Air Not available.
Soil Not available.
Water Not available.
Sediment Not available.

Organisational measures to prevent/limit release from site Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater.

Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/treatment plant (m3/d)

Type Municipal STP. Onsite STP.
Discharge rate 2000
Sludge treatment technique Do not use sludge as fertiliser

Conditions and measures related to external treatment of waste for disposal

Fraction of used amount transferred to external waste treatment

Suitable waste treatment Dispose of waste product or used containers according to local regulations.

Treatment effectiveness Not available.

Conditions and measures related to external recovery of waste

Fraction of used amount transferred to external waste treatment

Suitable recover operations External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2.1. Contributing scenario controlling worker exposure for Manufacture of substance

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical form of the product solid

vapour pressure Not available.

Amounts used

Not available.

Frequency and duration of use

Not available.

Human factors not influenced by risk management

Other given operational conditions affecting workers exposure

Not available.

Other relevant operational conditions

Not available.

Risk management measures (RMM)

Technical conditions and measures to control dispersion from source towards the worker Assumes a good basic standard of occupational hygiene is implemented. Ensure that splashes and spills are avoided by product design. Avoid contact with contaminated tools and objects. Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Organizational measures to prevent/limit releases, dispersion and exposure Not available.

Conditions and measures related to personal protection, hygiene and health evaluations Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. wash off any skin contamination immediately. provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

3. Exposure Estimation

Environment

Compartment	PEC	RCR (PEC/PNEC)	Method	Remarks
Air.	4,14E-04 mg/m ³	The use is assessed to be safe.	Used EUSES model.	
freshwater	1,38E-05 mg/l	0,00851	Used EUSES model.	
marine water	1,37E-06 mg/l	0,00845	Used EUSES model.	
freshwater sediment	1,53E-03 mg/kg wet weight	0,993	Used EUSES model.	
marine sediment	1,52E-04 mg/kg wet weight	0,987	Used EUSES model.	
soil	3,92E-04 mg/kg wet weight	0,987	Used EUSES model.	
STP	1,29E-04 mg/l	0,000000127	Used EUSES model.	

Health

Not available.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the risk management measures and operational conditions described in the ES fits to his use. Where other RMM / OC are adopted, user should then ensure that risks are managed to at least equivalent levels. This may be based on a set of determinants (and a suitable algorithm) which together ensure control of risk. Where relevant DU can use other methods, such as scaling, he needs to check whether he acts within the boundaries set by the information provided in the exposure scenario.

2 - Exposure Scenario Worker

1. Formulation of preparations

List of use descriptors

Sector(s) of Use	SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.
Name of contributing environmental scenario and corresponding ERC	Formulation of preparations ERC2: Formulation of preparations
List of names of contributing worker scenarios and corresponding PROCs	Formulation of preparations PROC1: Use in closed process, no likelihood of exposure. PROC2: Use in closed, continuous process with occasional controlled exposure. PROC3: Use in closed batch process (synthesis or formulation). PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15: Use as laboratory reagent

2.1.1. Contributing scenario controlling environmental exposure for Formulation of preparations

Product characteristics

Concentration of the substance in a mixture	Covers percentage substance in the product up to 100 % (unless stated differently).
Physical state	solid

Amounts used

Annual amount used in the EU	54000 tons/year
Regional use tonnage (tons/year):	5400 tons/year
Fraction of Regional tonnage used locally:	1
Emission days (days/year):	220

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Type	Emission days (days/year)	Emission factors			Remarks
		Air	Soil	Water	
	220	0,0001	0,0001	0,000000157	

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release	Common practices vary across sites thus conservative process release estimates used.
---------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Air	Not available.
Soil	Not available.
Water	Not available.
Sediment	Not available.

Organisational measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater.
-------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------

Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/treatment plant (m3/d)

Type	Municipal STP. Onsite STP.
Discharge rate	2000
Sludge treatment technique	Do not use sludge as fertiliser

Conditions and measures related to external treatment of waste for disposal

Fraction of used amount transferred to external waste treatment

Suitable waste treatment	Dispose of waste product or used containers according to local regulations.
Treatment effectiveness	Not available.

Conditions and measures related to external recovery of waste

Fraction of used amount transferred to external waste treatment

Suitable recover operations External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2.1. Contributing scenario controlling worker exposure for Formulation of preparations

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical form of the product solid

vapour pressure Not available.

Amounts used

Not available.

Frequency and duration of use

Not available.

Human factors not influenced by risk management

Other given operational conditions affecting workers exposure

Not available.

Other relevant operational conditions

Not available.

Risk management measures (RMM)

Technical conditions and measures to control dispersion from source towards the worker Assumes a good basic standard of occupational hygiene is implemented. Ensure that splashes and spills are avoided by product design. Avoid contact with contaminated tools and objects. Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Organizational measures to prevent/limit releases, dispersion and exposure Not available.

Conditions and measures related to personal protection, hygiene and health evaluations Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. wash off any skin contamination immediately. provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

3. Exposure Estimation

Environment

Compartment	PEC	RCR (PEC/PNEC)	Method	Remarks
Air.	4,14E-04 mg/m ³	The use is assessed to be safe.	Used EUSES model.	
freshwater	1,03E-05 mg/l	0,00646	Used EUSES model.	
marine water	1,03E-06 mg/l	0,00641	Used EUSES model.	
freshwater sediment	1,15E-03 mg/kg wet weight	0,754	Used EUSES model.	
marine sediment	1,14E-04 mg/kg wet weight	0,748	Used EUSES model.	
soil	3,92E-04 mg/kg wet weight	0,987	Used EUSES model.	
STP	9,45E-05 mg/l	0,0000000945	Used EUSES model.	

Health

Not available.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the risk management measures and operational conditions described in the ES fits to his use. Where other RMM / OC are adopted, user should then ensure that risks are managed to at least equivalent levels. This may be based on a set of determinants (and a suitable algorithm) which together ensure control of risk. Where relevant DU can use other methods, such as scaling, he needs to check whether he acts within the boundaries set by the information provided in the exposure scenario.

3 - Exposure Scenario Worker

1. Distribution of substance

List of use descriptors

Sector(s) of Use SU8: Manufacture of bulk, large scale chemicals (including petroleum products). SU9: Manufacture of fine chemicals. SU0: Other: SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.

Name of contributing environmental scenario and corresponding ERC

Distribution of substance
 ERC4: Industrial use of processing aids in processes and products, not becoming part of article 5.
 ERC5: Industrial use resulting in inclusion into or onto a matrix
 .
 ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)
 .
 ERC6b: Industrial use of reactive processing aids
 .
 ERC6c: Industrial use of monomers for manufacture of thermoplastics
 .
 ERC6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers
 .
 ERC7: Industrial use of substances in closed systems
 .

List of names of contributing worker scenarios and corresponding PROCs

Distribution of substance
 PROC1: Use in closed process, no likelihood of exposure. PROC2: Use in closed, continuous process with occasional controlled exposure. PROC3: Use in closed batch process (synthesis or formulation). PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15: Use as laboratory reagent

2.1.1. Contributing scenario controlling environmental exposure for Distribution of substance

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical state solid

Amounts used

Annual amount used in the EU 19300 tons/year
Regional use tonnage (tons/year): 1930 tons/year
Fraction of Regional tonnage used locally: 0,002
Emission days (days/year): 300

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Type	Emission days (days/year)	Emission factors			Remarks
		Air	Soil	Water	
	300	0,00001	0,00001	0,00001	

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Air Not available.
Soil Not available.
Water Not available.
Sediment Not available.

Organisational measures to prevent/limit release from site Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater.

Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/treatment plant (m3/d)

Type Municipal STP. Onsite STP.
Discharge rate 2000
Sludge treatment technique Do not use sludge as fertiliser

Conditions and measures related to external treatment of waste for disposal

Fraction of used amount transferred to external waste treatment

Suitable waste treatment Dispose of waste product or used containers according to local regulations.
Treatment effectiveness Not available.

Conditions and measures related to external recovery of waste

Fraction of used amount transferred to external waste treatment

Suitable recover operations External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2.1. Contributing scenario controlling worker exposure for Distribution of substance

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).
Physical form of the product solid
vapour pressure Not available.

Amounts used

Not available.

Frequency and duration of use

Not available.

Human factors not influenced by risk management

Other given operational conditions affecting workers exposure

Not available.

Other relevant operational conditions

Not available.

Risk management measures (RMM)

Technical conditions and measures to control dispersion from source towards the worker Assumes a good basic standard of occupational hygiene is implemented. Ensure that splashes and spills are avoided by product design. Avoid contact with contaminated tools and objects. Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Organizational measures to prevent/limit releases, dispersion and exposure Not available.

Conditions and measures related to personal protection, hygiene and health evaluations Avoid direct eye contact with product, also via contamination on hands. Use suitable eye protection. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Clear up spills immediately and dispose of waste safely. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

3. Exposure Estimation

Environment

Compartment	PEC	RCR (PEC/PNEC)	Method	Remarks
Air.	3,11E-06 mg/m ³	The use is assessed to be safe.	Used EUSES model.	
freshwater	1,39E-06 mg/l	0,000869	Used EUSES model.	
marine water	1,31E-07 mg/l	0,000817	Used EUSES model.	

freshwater sediment	1,54E-04 mg/kg wet weight	0,101	Used EUSES model.
marine sediment	1,45E-05 mg/kg wet weight	0,0953	Used EUSES model.
soil	3,31E-06 mg/kg wet weight	0,00835	Used EUSES model.
STP	4,30E-06 mg/l	0,0000000043	Used EUSES model.

Health

Not available.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the risk management measures and operational conditions described in the ES fits to his use. Where other RMM / OC are adopted, user should then ensure that risks are managed to at least equivalent levels. This may be based on a set of determinants (and a suitable algorithm) which together ensure control of risk. Where relevant DU can use other methods, such as scaling, he needs to check whether he acts within the boundaries set by the information provided in the exposure scenario.

4 - Exposure Scenario Worker

1. Intermediate

List of use descriptors

Sector(s) of Use

SU8: Manufacture of bulk, large scale chemicals (including petroleum products). SU9: Manufacture of fine chemicals. SU0: Other: SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.

Name of contributing environmental scenario and corresponding ERC

Intermediate
ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)
.

List of names of contributing worker scenarios and corresponding PROCs

Intermediate
PROC1: Use in closed process, no likelihood of exposure. PROC2: Use in closed, continuous process with occasional controlled exposure. PROC3: Use in closed batch process (synthesis or formulation). PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15: Use as laboratory reagent

2.1.1. Contributing scenario controlling environmental exposure for Intermediate

Product characteristics

Concentration of the substance in a mixture

Covers percentage substance in the product up to 100 % (unless stated differently).

Physical state

solid

Amounts used

Annual amount used in the EU 83500 tons/year

Regional use tonnage (tons/year): 8350 tons/year

Fraction of Regional tonnage used locally: 1

Emission days (days/year): 300

Environment factors not influenced by risk management

Local freshwater dilution factor: 10

Local marine water dilution factor: 100

Other given operational conditions affecting environmental exposure

Type	Emission days	Emission factors			Remarks
	(days/year)	Air	Soil	Water	
	300	0,00002	0,001	0,00000013	

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release

Common practices vary across sites thus conservative process release estimates used.

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Air Not available.

Soil Not available.

Water Not available.

Sediment Not available.

Organisational measures to prevent/limit release from site

Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater.

Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/treatment plant (m3/d)

Type Municipal STP. Onsite STP.

Discharge rate 2000

Sludge treatment technique Do not use sludge as fertiliser

Conditions and measures related to external treatment of waste for disposal

Fraction of used amount transferred to external waste treatment

Suitable waste treatment Dispose of waste product or used containers according to local regulations.

Treatment effectiveness Not available.

Conditions and measures related to external recovery of waste

Fraction of used amount transferred to external waste treatment

Suitable recover operations External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2.1. Contributing scenario controlling worker exposure for Intermediate

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical form of the product solid

vapour pressure Not available.

Amounts used

Not available.

Frequency and duration of use

Not available.

Human factors not influenced by risk management

Other given operational conditions affecting workers exposure

Not available.

Other relevant operational conditions

Not available.

Risk management measures (RMM)

Technical conditions and measures to control dispersion from source towards the worker Assumes a good basic standard of occupational hygiene is implemented. Ensure that splashes and spills are avoided by product design. Avoid contact with contaminated tools and objects. Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Organizational measures to prevent/limit releases, dispersion and exposure Not available.

Conditions and measures related to personal protection, hygiene and health evaluations Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. wash off any skin contamination immediately. provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

3. Exposure Estimation

Environment

Compartment	PEC	RCR (PEC/PNEC)	Method	Remarks
Air.	1,30E-04 mg/m ³	The use is assessed to be safe.	Used EUSES model.	
freshwater	1,30E-05 mg/l	0,00811	Used EUSES model.	
marine water	1,29E-06 mg/l	0,00806	Used EUSES model.	
freshwater sediment	1,44E-03 mg/kg wet weight	0,946	Used EUSES model.	
marine sediment	1,43E-04 mg/kg wet weight	0,94	Used EUSES model.	
soil	1,24E-04 mg/kg wet weight	0,312	Used EUSES model.	
STP	1,21E-04 mg/l	0,000000121	Used EUSES model.	

Health

Not available.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the risk management measures and operational conditions described in the ES fits to his use. Where other RMM / OC are adopted, user should then ensure that risks are managed to at least equivalent levels. This may be based on a set of determinants (and a suitable algorithm) which together ensure control of risk. Where relevant DU can use other methods, such as scaling, he needs to check whether he acts within the boundaries set by the information provided in the exposure scenario.

5 - Exposure Scenario Worker

1. Fuels

List of use descriptors

Sector(s) of Use	SU0: Other: SU3: Industrial uses: Uses of substances as such or in preparations at industrial sites.
Name of contributing environmental scenario and corresponding ERC	Fuels ERC7: Industrial use of substances in closed systems .
List of names of contributing worker scenarios and corresponding PROCs	Fuels PROC1: Use in closed process, no likelihood of exposure. PROC2: Use in closed, continuous process with occasional controlled exposure. PROC3: Use in closed batch process (synthesis or formulation). PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises. PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities. PROC8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities. PROC15: Use as laboratory reagent

2.1.1. Contributing scenario controlling environmental exposure for Fuels

Product characteristics

Concentration of the substance in a mixture	Covers percentage substance in the product up to 100 % (unless stated differently).
Physical state	solid

Amounts used

Annual amount used in the EU	1 tons/year
Regional use tonnage (tons/year):	0,1 tons/year
Fraction of Regional tonnage used locally:	1
Emission days (days/year):	300

Environment factors not influenced by risk management

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

Other given operational conditions affecting environmental exposure

Type	Emission days (days/year)		Emission factors			Remarks
	Air	Water	Soil	Water		
	300	0,00025	0	0,00001		

Risk management measures (RMM)

Technical conditions and measures at process level (source) to prevent release	Common practices vary across sites thus conservative process release estimates used.
---------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------

Technical onsite conditions and measures to reduce or limit discharges, air emissions and releases to soil

Air	Not available.
Soil	Not available.
Water	Not available.
Sediment	Not available.

Organisational measures to prevent/limit release from site	Do not apply industrial sludge to natural soils. Prevent discharge of undissolved substance to or recover from onsite wastewater.
-------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------

Conditions and measures related to municipal sewage treatment plant

Size of municipal sewage system/treatment plant (m3/d)

Type	Municipal STP. Onsite STP.
Discharge rate	2000
Sludge treatment technique	Do not use sludge as fertiliser

Conditions and measures related to external treatment of waste for disposal

Fraction of used amount transferred to external waste treatment

Suitable waste treatment	Dispose of waste product or used containers according to local regulations.
---------------------------------	-----------------------------------------------------------------------------

Treatment effectiveness Not available.

Conditions and measures related to external recovery of waste

Fraction of used amount transferred to external waste treatment

Suitable recover operations External recovery and recycling of waste should comply with applicable local and/or national regulations.

2.2.1. Contributing scenario controlling worker exposure for Fuels

Product characteristics

Concentration of the substance in a mixture Covers percentage substance in the product up to 100 % (unless stated differently).

Physical form of the product solid

vapour pressure Not available.

Amounts used

Not available.

Frequency and duration of use

Not available.

Human factors not influenced by risk management

Other given operational conditions affecting workers exposure

Not available.

Other relevant operational conditions

Not available.

Risk management measures (RMM)

Technical conditions and measures to control dispersion from source towards the worker Assumes a good basic standard of occupational hygiene is implemented. Ensure that splashes and spills are avoided by product design. Avoid contact with contaminated tools and objects. Clean equipment and the work area every day. Supervision in place to check that the RMMs in place are being used correctly and OCs followed.

Organizational measures to prevent/limit releases, dispersion and exposure Not available.

Conditions and measures related to personal protection, hygiene and health evaluations Avoid direct skin contact with product. Identify potential areas for indirect skin contact. Wear gloves (tested to EN374) if hand contact with substance likely. Clean up contamination/spills as soon as they occur. wash off any skin contamination immediately. provide basic employee training to prevent / minimise exposures and to report any skin problems that may develop. Other skin protection measures such as impervious suits and face shields may be required during high dispersion activities which are likely to lead to substantial aerosol release, e.g. spraying.

3. Exposure Estimation

Environment

Compartment	PEC	RCR (PEC/PNEC)	Method	Remarks
Air.	3,09E-06 mg/m ³	The use is assessed to be safe.	Used EUSES model.	
freshwater	9,75E-07 mg/l	0,000609	Used EUSES model.	
marine water	1,05E-07 mg/l	0,000654	Used EUSES model.	
freshwater sediment	1,08E-04 mg/kg wet weight	0,0711	Used EUSES model.	
marine sediment	1,16E-05 mg/kg wet weight	0,0763	Used EUSES model.	
soil	5,16E-06 mg/kg wet weight	0,0142	Used EUSES model.	
STP	1,12E-07 mg/l	0,00000000112	Used EUSES model.	

Health

Not available.

4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the ES

The immediate downstream user is required to evaluate whether the risk management measures and operational conditions described in the ES fits to his use. Where other RMM / OC are adopted, user should then ensure that risks are managed to at least equivalent levels. This may be based on a set of determinants (and a suitable algorithm) which together ensure control of risk. Where relevant DU can use other methods, such as scaling, he needs to check whether he acts within the boundaries set by the information provided in the exposure scenario.