RAPID START - 300 ML

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

1.1 Product identifier

Trade name : RAPID START - 300 ML

Product code : 089011

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

Use of the Substance/Mixture : Solvent mixture

1.3 Details of the supplier of the safety data sheet

Company : Adolf Wuerth GmbH & Co. KG
Reinhold-Würth-Str. 12-17
74653 Künzelsau

Telephone : +49 794015 0

Telefax : +49 794015 10 00

E-mail address of person responsible for the SDS : prodsafe@wuerth.com

1.4 Emergency telephone number

Giftnotrufzentrale Berlin +49 30 30686 790. Gesellschaft (07:00 – 18:00 Uhr) +49 794015 2552

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Aerosols, Category 1	H222: Extremely flammable aerosol. H229: Pressurised container: May burst if heated.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Aspiration hazard, Category 1	H304: May be fatal if swallowed and enters airways.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :

Signal word : Danger

Hazard statements :
H222 Extremely flammable aerosol.
H229 Pressurised container: May burst if heated.
H304 May be fatal if swallowed and enters airways.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

Supplemental Hazard Statements :
EUH019 May form explosive peroxides.
EUH066 Repeated exposure may cause skin dryness or cracking.

Precautionary statements :

Prevention:

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Do not pierce or burn, even after use.

Response:

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.

Storage:

P410 + P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/ 122 °F.

Hazardous components which must be listed on the label:
Ethyl ether
n-Pentane

2.3 Other hazards

May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Ethyl ether	60-29-7 200-467-2 603-022-00-4	Flam. Liq. 1; H224 Acute Tox. 4; H302 STOT SE 3; H336	>= 20 - < 30
n-Pentane	109-66-0	Flam. Liq. 2; H225	>= 10 - < 20

	203-692-4 601-006-00-1	STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	
Acetone	67-64-1 200-662-2 606-001-00-8	Flam. Liq. 2; H225 Eye Irrit. 2; H319 STOT SE 3; H336	>= 1 - < 10
Cyclohexane	110-82-7 203-806-2 601-017-00-1	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 2,5 - < 10
Hydrocarbons, C6, isoalkanes, <5% n-hexane	64742-49-0	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2,5
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	Not Assigned 01-2119486291-36	Flam. Liq. 2; H225 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 1 - < 2,5
n-Hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq. 2; H225 Skin Irrit. 2; H315 Repr. 2; H361fd STOT SE 3; H336 STOT RE 2; H373 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 0,25 - < 1

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice.

Protection of first-aiders : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

If inhaled : If inhaled, remove to fresh air.
Get medical attention.

In case of skin contact : In case of contact, immediately flush skin with plenty of water.

Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse.

In case of eye contact : Flush eyes with water as a precaution.
Get medical attention if irritation develops and persists.

If swallowed : If swallowed, DO NOT induce vomiting.
If vomiting occurs have person lean forward.
Call a physician or poison control centre immediately.
Rinse mouth thoroughly with water.
Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed

Risks : May be fatal if swallowed and enters airways.
May cause drowsiness or dizziness.
Repeated exposure may cause skin dryness or cracking.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically and supportively.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water spray
Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire-fighting : Flash back possible over considerable distance.
Vapours may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health.
If the temperature rises there is danger of the vessels bursting due to the high vapor pressure.

Hazardous combustion products : Carbon oxides

5.3 Advice for firefighters

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Remove all sources of ignition.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.

6.2 Environmental precautions

Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapours/mists with a water spray jet.
For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures : See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Local/Total ventilation : Use with local exhaust ventilation.

Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapours or spray mist.
Do not swallow.
Avoid contact with eyes.
Handle in accordance with good industrial hygiene and safety practice.
Keep container tightly closed.
Protect against light.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.

Do not spray on an open flame or other ignition source.

Hygiene measures : Ensure that eye flushing systems and safety showers are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Do not pierce or burn, even after use. Keep cool. Protect from sunlight.

Advice on common storage : Do not store with the following product types:
Self-reactive substances and mixtures
Organic peroxides
Oxidizing agents
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures, which in contact with water, emit flammable gases
Explosives

Storage class (TRGS 510) : 2B, Aerosol cans and lighters

7.3 Specific end use(s)

Specific use(s) : No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form	Control parameters	Basis

		of exposure)		
Butane	106-97-8	AGW	1.000 ppm 2.400 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
Ethyl ether	60-29-7	TWA	100 ppm 308 mg/m3	2000/39/EC
Further information	Indicative			
		STEL	200 ppm 616 mg/m3	2000/39/EC
Further information	Indicative			
		AGW	400 ppm 1.200 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	1;(I)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible)			
Propane	74-98-6	AGW	1.000 ppm 1.800 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
n-Pentane	109-66-0	TWA	1.000 ppm 3.000 mg/m3	2006/15/EC
Further information	Indicative			
		AGW	1.000 ppm 3.000 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
		AGW	1.500 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Acetone	67-64-1	TWA	500 ppm 1.210 mg/m3	2000/39/EC
Further information	Indicative			

		AGW	500 ppm 1.200 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(I)			
Further information	Commission for dangerous substances, Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child			
Cyclohexane	110-82-7	TWA	200 ppm 700 mg/m3	2006/15/EC
Further information	Indicative			
		AGW	200 ppm 700 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible)			
Hydrocarbons, C6, isoalkanes, <5% n-hexane	64742-49-0	AGW	1.500 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	Not Assigned	AGW	1.500 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	2;(II)			
Further information	Group exposure limit for hydrocarbon solvent mixtures, Commission for dangerous substances, See also No. 2.9 of the TRGS 900			
Isobutane	75-28-5	AGW	1.000 ppm 2.400 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	4;(II)			
Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission).			
n-Hexane	110-54-3	TWA	20 ppm 72 mg/m3	2006/15/EC
Further information	Indicative			
		AGW	50 ppm 180 mg/m3	DE TRGS 900
Peak-limit: excursion factor (category)	8;(II)			

Further information	Senate commission for the review of compounds at the work place dangerous for the health (MAK-commission)., European Union (The EU has established a limit value: deviations in value and peak limit are possible), When there is compliance with the OEL and biological tolerance values, there is no risk of harming the unborn child

Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
Acetone	67-64-1	Acetone: 80 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903
Cyclohexane	110-82-7	1,2-cyclohexanediol: 150 mg/g Creatinine (Urine)	Immediately after exposure or after working hours, In case of long-term exposure: after more than one shift	TRGS 903
n-Hexane	110-54-3	2,5-hexanedione plus 4,5-dihydroxy-2-hexanone: 5 mg/l (Urine)	Immediately after exposure or after working hours	TRGS 903

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
n-Pentane	Workers	Inhalation	Long-term systemic effects	3000 mg/m3
	Workers	Skin contact	Long-term systemic effects	432 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	643 mg/m3
	Consumers	Skin contact	Long-term systemic effects	214 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	214 mg/kg bw/day
Acetone	Workers	Inhalation	Long-term systemic effects	1210 mg/m3
	Workers	Inhalation	Acute local effects	2420 mg/m3
	Workers	Skin contact	Long-term systemic effects	186 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	200 mg/m3
	Consumers	Skin contact	Long-term systemic effects	62 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	62 mg/kg bw/day
Hydrocarbons, C6, isoalkanes, <5% n-hexane	Workers	Inhalation	Long-term systemic effects	5306 mg/m3
	Workers	Skin contact	Long-term systemic effects	13964 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	1131 mg/m3

	Consumers	Skin contact	Long-term systemic effects	1377 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1301 mg/kg bw/day
Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane	Workers	Inhalation	Long-term systemic effects	5306 mg/m3
	Workers	Inhalation	Long-term systemic effects	5306 mg/m3
	Consumers	Inhalation	Long-term systemic effects	1131 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1377 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1301 mg/kg bw/day
Ethyl ether	Workers	Inhalation	Long-term systemic effects	308 mg/m3
	Workers	Inhalation	Acute systemic effects	616 mg/m3
	Workers	Skin contact	Long-term systemic effects	44 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	54,5 mg/m3
	Consumers	Skin contact	Long-term systemic effects	15,6 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	15,6 mg/kg bw/day
Cyclohexane	Workers	Inhalation	Acute systemic effects	700 mg/m3
	Workers	Inhalation	Acute local effects	700 mg/m3
	Workers	Skin contact	Long-term systemic effects	2016 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	700 mg/m3
	Workers	Inhalation	Long-term local effects	700 mg/m3
	Consumers	Inhalation	Acute systemic effects	412 mg/m3
	Consumers	Inhalation	Long-term systemic effects	206 mg/m3
	Consumers	Inhalation	Long-term local effects	206 mg/m3
	Consumers	Skin contact	Long-term systemic effects	1186 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	59,4 mg/kg bw/day
n-Hexane	Workers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	75 mg/m3
	Consumers	Skin contact	Long-term systemic effects	5,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic	16 mg/m3

			effects	
	Consumers	Ingestion	Long-term systemic effects	4 mg/kg bw/day

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
n-Pentane	Fresh water	0,23 mg/l
	Marine water	0,23 mg/l
	Intermittent use/release	0,88 mg/l
	Sewage treatment plant	3,6 mg/l
	Fresh water sediment	1,2 mg/kg
	Marine sediment	1,2 mg/kg
	Soil	0,55 mg/kg
Acetone	Fresh water	10,6 mg/l
	Marine water	1,06 mg/l
	Intermittent use/release	21 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	30,4 mg/kg
	Marine sediment	3,04 mg/kg
	Soil	29,5 mg/kg
Distillates (petroleum), solvent refined heavy paraffinic	Oral (Secondary Poisoning)	9,33 mg/kg food
Ethyl ether	Fresh water	2 mg/l
	Marine water	0,2 mg/l
	Intermittent use/release	1,65 mg/l
	Sewage treatment plant	4,2 mg/l
	Fresh water sediment	9,14 mg/kg
	Marine sediment	0,914 mg/kg
	Soil	0,66 mg/kg
Cyclohexane	Fresh water	0,207 mg/l
	Marine water	0,207 mg/l
	Intermittent use/release	0,207 mg/l
	Sewage treatment plant	3,24 mg/l
	Fresh water sediment	3,627 mg/kg dry weight (d.w.)
	Marine sediment	3,627 mg/kg dry weight (d.w.)
	Soil	2,99 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

Personal protective equipment

Eye protection : Wear the following personal protective equipment:
Safety glasses

Hand protection
Material : Fluorinated rubber
Break through time : >= 30 min

Glove thickness	:	0,6 mm
Material	:	butyl-rubber
Break through time	:	>= 30 min
Glove thickness	:	0,6 mm
Remarks	:	Choose gloves to protect hands against chemicals depending on the concentration and quantity of the hazardous substance and specific to place of work. For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Skin and body protection	:	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment: Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Respiratory protection	:	Use respiratory protection unless adequate local exhaust ventilation is provided or exposure assessment demonstrates that exposures are within recommended exposure guidelines.
Filter type	:	Self-contained breathing apparatus

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	Aerosol containing a liquefied gas
Propellant	:	Propane, Butane, Isobutane
Colour	:	colourless
Odour	:	characteristic
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	> -161,5 °C (1,013 hPa)
Flash point	:	Not applicable
Evaporation rate	:	Not applicable

Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit / Upper flammability limit	:	15 %(V)
Lower explosion limit / Lower flammability limit	:	1,4 %(V)
Vapour pressure	:	4.200 hPa (20 °C)
Relative vapour density	:	Not applicable
Density	:	0,7035 - 0,7435 g/cm3 (20 °C)
Solubility(ies)		
Water solubility	:	partly miscible
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	175 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

9.2 Other information

Particle size	:	Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	:	Extremely flammable aerosol. Vapours may form explosive mixture with air. If the temperature rises there is danger of the vessels bursting due to the high vapor pressure. Can react with strong oxidizing agents.

10.4 Conditions to avoid

Conditions to avoid	:	Heat, flames and sparks.

10.5 Incompatible materials

Materials to avoid : Oxidizing agents

10.6 Hazardous decomposition products

No hazardous decomposition products are known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Information on likely routes of exposure : Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity : Acute toxicity estimate: > 2.000 mg/kg
Method: Calculation method

Components:

Ethyl ether:

Acute oral toxicity : LD50 (Rat): 1.200 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): 97 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg
Method: OECD Test Guideline 402

n-Pentane:

Acute oral toxicity : LD50 (Rat): > 2.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 25,3 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: OECD Test Guideline 403
Remarks: Based on data from similar materials

Acetone:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 5.000 mg/kg

Cyclohexane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 19,07 mg/l
Exposure time: 4 h
Test atmosphere: vapour

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Acute oral toxicity : LD50 (Rat): 16.750 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): 259,354 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rabbit): > 3.350 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 20 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 3.350 mg/kg
Remarks: Based on data from similar materials

n-Hexane:

Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Method: OECD Test Guideline 401

Acute inhalation toxicity : LC50 (Rat): > 31,86 mg/l
Exposure time: 4 h

Test atmosphere: vapour
Method: OECD Test Guideline 403
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg

Skin corrosion/irritation

Repeated exposure may cause skin dryness or cracking.

Components:

Ethyl ether:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Assessment: Repeated exposure may cause skin dryness or cracking.

n-Pentane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation

Assessment: Repeated exposure may cause skin dryness or cracking.

Acetone:

Assessment: Repeated exposure may cause skin dryness or cracking.

Cyclohexane:

Species: Rabbit
Result: Skin irritation

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: Skin irritation

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
Remarks: Based on data from similar materials

Assessment: Repeated exposure may cause skin dryness or cracking.

n-Hexane:

Species: Rabbit
Result: Skin irritation

Serious eye damage/eye irritation

Not classified based on available information.

Components:

Ethyl ether:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

n-Pentane:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation

Acetone:

Species: Rabbit
Method: OECD Test Guideline 405
Result: Irritation to eyes, reversing within 21 days

Cyclohexane:

Species: Rabbit
Result: No eye irritation

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Species: Rabbit
Result: No eye irritation
Remarks: Based on data from similar materials

n-Hexane:

Species: Rabbit
Result: No eye irritation

Respiratory or skin sensitisation

Skin sensitisation

Not classified based on available information.

Respiratory sensitisation

Not classified based on available information.

Components:

Ethyl ether:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Method: OECD Test Guideline 429
Result: negative

n-Pentane:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Method: OECD Test Guideline 406
Result: negative

Acetone:

Test Type: Maximisation Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Cyclohexane:

Test Type: Buehler Test
Exposure routes: Skin contact
Species: Guinea pig
Result: negative

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative
Remarks: Based on data from similar materials

n-Hexane:

Test Type: Local lymph node assay (LLNA)
Exposure routes: Skin contact
Species: Mouse
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Components:

Ethyl ether:

Genotoxicity in vitro	:	Test Type: in vitro micronucleus test Result: negative
	:	Test Type: Bacterial reverse mutation assay (AMES) Method: OECD Test Guideline 471 Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative

n-Pentane:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Result: negative
	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
Genotoxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (vapour) Method: Directive 67/548/EEC, Annex V, B.12. Result: negative

Acetone:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Method: OECD Test Guideline 476 Result: negative
Genotoxicity in vivo	:	Test Type: In vivo micronucleus test Species: Hamster Application Route: Intraperitoneal injection Result: negative

Cyclohexane:

Genotoxicity in vitro	:	Test Type: In vitro mammalian cell gene mutation test Result: negative
	:	Test Type: Bacterial reverse mutation assay (AMES) Result: negative
	:	Test Type: In vitro mammalian cell gene mutation test

Result: negative

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

: Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

: Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on data from similar materials

: Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on data from similar materials

: Test Type: In vitro mammalian cell gene mutation test
Result: negative
Remarks: Based on data from similar materials

Genotoxicity in vivo : Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative

n-Hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Result: positive

Genotoxicity in vivo : Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Mouse
Application Route: inhalation (vapour)
Result: negative

Carcinogenicity

Not classified based on available information.

Components:

Acetone:

Species: Mouse
Application Route: Skin contact
Exposure time: 1 Years
Result: negative

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

Species: Mouse
Application Route: inhalation (vapour)
Exposure time: 2 yr
Result: negative
Remarks: Based on data from similar materials

n-Hexane:

Species: Rat
Application Route: inhalation (vapour)
Exposure time: 2 Years
Method: OECD Test Guideline 451
Result: negative

Reproductive toxicity

Not classified based on available information.

Components:

Ethyl ether:

Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 414 Result: negative Remarks: Based on data from similar materials

n-Pentane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Method: OECD Test Guideline 416 Result: negative Remarks: Based on data from similar materials
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rabbit Application Route: inhalation (vapour) Result: negative Remarks: Based on data from similar materials

Acetone:

Effects on fertility	:	Test Type: One-generation reproduction toxicity study Species: Rat Application Route: Ingestion Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Mouse Result: negative

Cyclohexane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: inhalation (vapour) Result: negative
Effects on foetal development	:	Test Type: Embryo-foetal development Species: Rat Application Route: inhalation (vapour) Result: negative

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Effects on fertility	:	Test Type: Two-generation reproduction toxicity study Species: Rat

Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Effects on foetal development : Test Type: Embryo-foetal development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

n-Hexane:

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments., Some evidence of adverse effects on development, based on animal experiments.

STOT - single exposure

May cause drowsiness or dizziness.

Components:

Ethyl ether:

Assessment: May cause drowsiness or dizziness.

n-Pentane:

Assessment: May cause drowsiness or dizziness.

Acetone:

Assessment: May cause drowsiness or dizziness.

Cyclohexane:

Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Assessment: May cause drowsiness or dizziness.

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:
Assessment: May cause drowsiness or dizziness.

n-Hexane:
Assessment: May cause drowsiness or dizziness.

STOT - repeated exposure
Not classified based on available information.

Components:

n-Hexane:
Target Organs: Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Components:

Ethyl ether:
Species: Rat
NOAEL: 500 mg/kg
Application Route: Ingestion
Exposure time: 13 Weeks

n-Pentane:
Species: Rat
NOAEL: > 20,5 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 Weeks
Method: OECD Test Guideline 413

Acetone:
Species: Rat
LOAEL: 1.700 mg/kg
Application Route: Ingestion
Exposure time: 90 Days

Cyclohexane:
Species: Rat
NOAEL: 24,08 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 Days

Hydrocarbons, C6, isoalkanes, <5% n-hexane:
Species: Rat, male
NOAEL: 10,504 mg/l
Application Route: inhalation (vapour)
Exposure time: 90 Days

Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Species: Rat, male
NOAEL: 10,504 mg/l
LOAEL: 31,652 mg/l
Application Route: inhalation (vapour)
Exposure time: 13 Weeks
Remarks: Based on data from similar materials

n-Hexane:

Species: Rat
LOAEL: 10,6 mg/l
Application Route: inhalation (vapour)
Exposure time: 16 Weeks

Aspiration toxicity

May be fatal if swallowed and enters airways.

Product:

May be fatal if swallowed and enters airways.

Components:

n-Pentane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Cyclohexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

n-Hexane:

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Components:

n-Hexane:

Inhalation : Target Organs: Central nervous system

SECTION 12: Ecological information

12.1 Toxicity

Components:

Ethyl ether:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 2.560 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 165 mg/l Exposure time: 24 h
Toxicity to algae	:	EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l Exposure time: 72 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 : 26.000 mg/l Exposure time: 3 h Method: OECD Test Guideline 209
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC: 100 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Method: OECD Test Guideline 211

n-Pentane:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 4,26 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2,7 mg/l Exposure time: 48 h
Toxicity to algae	:	ErC50 (Scenedesmus quadricauda (Green algae)): 10,7 mg/l Exposure time: 72 h Method: OECD Test Guideline 201

Ecotoxicology Assessment

Chronic aquatic toxicity : Toxic to aquatic life with long lasting effects.

Acetone:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 6.210 - 8.120 mg/l Exposure time: 96 h

Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia pulex (Water flea)): 8.800 mg/l
Exposure time: 48 h

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC: 1.106 - 2.212 mg/l
Exposure time: 28 d
Species: Daphnia magna (Water flea)

Cyclohexane:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 4,53 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0,9 mg/l
Exposure time: 48 h

Toxicity to algae : NOEC (Pseudokirchneriella subcapitata (green algae)): 0,94 mg/l
Exposure time: 72 h

EC50 (Pseudokirchneriella subcapitata (green algae)): 9,32 mg/l
Exposure time: 72 h

M-Factor (Acute aquatic toxicity) : 1

Ecotoxicology Assessment

Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 100 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): > 1 - 10 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 202
Remarks: Based on data from similar materials

Toxicity to algae : EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h

Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOELR: > 0,1 - 1 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): 12 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203

Toxicity to daphnia and other aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae : EL50 (Selenastrum capricornutum (green algae)): > 10 - 100 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Selenastrum capricornutum (green algae)): 0,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

n-Hexane:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 2,5 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 3,88 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Ethyl ether:

Biodegradability : Result: Not readily biodegradable.

n-Pentane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 87 %
Exposure time: 28 d

Acetone:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 91 %
Exposure time: 28 d

Cyclohexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 77 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 81 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

n-Hexane:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 98 %
Exposure time: 28 d
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential

Components:

Ethyl ether:

Partition coefficient: n-octanol/water : log Pow: 0,83

n-Pentane:

Partition coefficient: n-octanol/water : log Pow: 3,45

Acetone:

Partition coefficient: n-octanol/water : log Pow: -0,24

Cyclohexane:

Partition coefficient: n-octanol/water : log Pow: 3,44

Hydrocarbons, C6, isoalkanes, <5% n-hexane:

Partition coefficient: n-octanol/water : log Pow: 3,6

Hydrocarbons, C6-C7, isoalkanes, cyclics, <5% n-hexane:

Partition coefficient: n-octanol/water : log Pow: > 3 - < 4
Remarks: Based on data from similar materials

n-Hexane:

Partition coefficient: n-octanol/water : log Pow: 4

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

Not relevant

12.6 Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : Dispose of in accordance with local regulations.
According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.
Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.
Empty containers retain residue and can be dangerous.
Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury and/or death.
If not otherwise specified: Dispose of as unused product.
Please ensure aerosol cans are sprayed completely empty (including propellant)

Waste Code : The following Waste Codes are only suggestions:

used product

160504, gases in pressure containers (including halons) containing dangerous substances

unused product
160504, gases in pressure containers (including halons) containing dangerous substances

uncleaned packagings
150110, packaging containing residues of or contaminated by dangerous substances

Acc. Packaging Ordinance properly emptied packaging:
Properly emptied, non-contaminated packaging of non-hazardous products can be supplied to a system for the collection of sales packaging.

SECTION 14: Transport information

14.1 UN number

ADN	:	UN 1950
ADR	:	UN 1950
RID	:	UN 1950
IMDG	:	UN 1950
IATA	:	UN 1950

14.2 UN proper shipping name

ADN	:	AEROSOLS
ADR	:	AEROSOLS
RID	:	AEROSOLS
IMDG	:	AEROSOLS
IATA	:	Aerosols, flammable

14.3 Transport hazard class(es)

ADN	:	2
ADR	:	2
RID	:	2
IMDG	:	2.1
IATA	:	2.1

14.4 Packing group

ADN

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1

ADR

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Labels	:	2.1
Tunnel restriction code	:	(D)

RID

Packing group	:	Not assigned by regulation
Classification Code	:	5F
Hazard Identification Number	:	23
Labels	:	2.1

IMDG

Packing group	:	Not assigned by regulation
Labels	:	2.1
EmS Code	:	F-D, S-U

IATA (Cargo)

Packing instruction (cargo aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

IATA (Passenger)

Packing instruction (passenger aircraft)	:	203
Packing instruction (LQ)	:	Y203
Packing group	:	Not assigned by regulation
Labels	:	Flammable Gas

14.5 Environmental hazards

ADN

Environmentally hazardous	:	no

ADR

Environmentally hazardous	:	no

RID

Environmentally hazardous	:	no

IMDG

Marine pollutant	:	no

14.6 Special precautions for user

Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Remarks	:	Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances,	:	Cyclohexane (57)

preparations and articles (Annex XVII)

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).	:	Not applicable
Regulation (EC) No 1005/2009 on substances that deplete the ozone layer	:	Not applicable
Regulation (EC) No 850/2004 on persistent organic pollutants	:	Not applicable
Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals	:	Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

		Quantity 1	Quantity 2
P3a	FLAMMABLE AEROSOLS	150 t	500 t
E2	ENVIRONMENTAL HAZARDS	200 t	500 t
18	Liquefied extremely flammable gases (including LPG) and natural gas	50 t	200 t

Water contaminating class (Germany)	:	WGK 3 highly water endangering Classification according VwVwS, Annex 4.
Volatile organic compounds	:	Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control) Volatile organic compounds (VOC) content: 92 %, 589,37 g/l Remarks: VOC content excluding water

Other regulations:

Take note of Directive 94/33/EC on the protection of young people at work or stricter national regulations, where applicable.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Full text of H-Statements

H224	:	Extremely flammable liquid and vapour.
H225	:	Highly flammable liquid and vapour.
H302	:	Harmful if swallowed.
H304	:	May be fatal if swallowed and enters airways.
H315	:	Causes skin irritation.
H319	:	Causes serious eye irritation.
H336	:	May cause drowsiness or dizziness.

H361fd	:	Suspected of damaging fertility. Suspected of damaging the unborn child.
H373	:	May cause damage to organs through prolonged or repeated exposure.
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.

Full text of other abbreviations

Acute Tox.	:	Acute toxicity
Aquatic Acute	:	Acute aquatic toxicity
Aquatic Chronic	:	Chronic aquatic toxicity
Asp. Tox.	:	Aspiration hazard
Eye Irrit.	:	Eye irritation
Flam. Liq.	:	Flammable liquids
Repr.	:	Reproductive toxicity
Skin Irrit.	:	Skin irritation
STOT RE	:	Specific target organ toxicity - repeated exposure
STOT SE	:	Specific target organ toxicity - single exposure
2000/39/EC	:	Europe. Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
2006/15/EC	:	Europe. Indicative occupational exposure limit values
DE TRGS 900	:	Germany. TRGS 900 - Occupational exposure limit values.
TRGS 903	:	TRGS 903 - Biological limit values
2000/39/EC / TWA	:	Limit Value - eight hours
2000/39/EC / STEL	:	Short term exposure limit
2006/15/EC / TWA	:	Limit Value - eight hours
2006/15/EC / TWA	:	Limit Value - eight hours
DE TRGS 900 / AGW	:	Time Weighted Average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substanc-

es; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to compile the Safety Data Sheet	:	Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Classification of the mixture:		**Classification procedure:**
Aerosol 1	H222, H229	Based on product data or assessment
STOT SE 3	H336	Calculation method
Asp. Tox. 1	H304	Based on product data or assessment
Aquatic Chronic 2	H411	Calculation method

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

DE / EN