

Rost Off Ice 400ml

Version Revision Date: SDS Number: Date of last issue: 07/11/2018
4.2 11/27/2018 688615-00007 Date of first issue: 05/07/2015

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier**

Trade name : Rost Off Ice 400ml
Product code : 00893 240

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

Use of the Sub- : Detergent, Cleaning agent
stance/Mixture Professional use product

1.3 Details of the supplier of the safety data sheet

Company : Würth SA (Pty) Ltd
 G1 Isando Industrial Park
 Gewel Street, Isando Ext. 3
 1600 Gauteng

Telephone : +27 11 281-1000

Telefax : +27 11 974-9711

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

1.4 Emergency telephone number

Advisory office in case of poisoning: +27 11 922-1164. Telephone number of the company
in case of emergencies: +27 11 281-1000 (08:00-16:30 h)

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.
Skin irritation, Category 2	H315: Causes skin irritation.
Specific target organ toxicity - single exposure, Category 3	H336: May cause drowsiness or dizziness.
Long-term (chronic) aquatic hazard, Category 3	H412: Harmful to aquatic life with long lasting effects.

2.2 Label elements**Labelling (REGULATION (EC) No 1272/2008)**

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Hazard pictograms :  

Signal word : Danger

Hazard statements : H222 Extremely flammable aerosol.
 H229 Pressurised container: May burst if heated.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H412 Harmful to aquatic life with long lasting effects.

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.
 P261 Avoid breathing spray.
 P273 Avoid release to the environment.

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:

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics

2.3 Other hazards

May displace oxygen and cause rapid suffocation.

SECTION 3: Composition/information on ingredients
3.2 Mixtures
Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane	Not Assigned 01-2119475514-35	Flam. Liq.2; H225 Skin Irrit.2; H315 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2; H411	>= 2,5 - < 10
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0 01-2119475515-33	Flam. Liq.2; H225 Skin Irrit.2; H315 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic2;	>= 2,5 - < 10

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Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics	Not Assigned 01-2119471843-32	H411 Flam. Liq.3; H226 STOT SE3; H336 Asp. Tox.1; H304 Aquatic Chronic3; H412	>= 2,5 - < 10
n-Hexane	110-54-3 203-777-6 601-037-00-0	Flam. Liq.2; H225 Skin Irrit.2; H315 Repr.2; H361f STOT SE3; H336 STOT RE2; H373 Asp. Tox.1; H304 Aquatic Chronic2; 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 for at least 15 minutes while removing 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.
 Get medical attention.
 Rinse mouth thoroughly with water.

4.2 Most important symptoms and effects, both acute and delayed

- Risks : Causes skin irritation.
 May cause drowsiness or dizziness.

4.3 Indication of any immediate medical attention and special treatment needed

- Treatment : Treat symptomatically and supportively.

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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 : Evacuate personnel to safe areas.
Remove all sources of ignition.
Ventilate the area.
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.

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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 if advised by assessment of the local exposure potential

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, based on the results of the workplace exposure assessment
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 : Store locked up. Keep in a cool, well-ventilated place. Store in

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areas and containers 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

Recommended storage temperature : 10 - < 40 °C

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 of exposure)	Control parameters	Basis
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	64742-49-0	TWA OEL-RL	400 ppm 1.600 mg/m ³	ZA OEL
Further information	Recommended Limit			
		STEL OEL-RL	500 ppm 2.000 mg/m ³	ZA OEL
Further information	Recommended Limit			
		TWA	500 ppm 2.085 mg/m ³	2000/39/EC
Butane	106-97-8	TWA OEL-RL	600 ppm 1.430 mg/m ³	ZA OEL
Further information	Recommended Limit			
		STEL OEL-RL	750 ppm 1.780 mg/m ³	ZA OEL
Further information	Recommended Limit			
n-Hexane	110-54-3	TWA OEL-RL	20 ppm 70 mg/m ³	ZA OEL
Further information	Recommended Limit			
		TWA	20 ppm 72 mg/m ³	2006/15/EC

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Biological occupational exposure limits

Substance name	CAS-No.	Control parameters	Sampling time	Basis
n-Hexane	110-54-3	2,5-Hexanedione: 5 mg/g Creatinine (Urine)	End of shift	ZA BEI
		n-Hexane: (end exhaled air)		ZA BEI

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

Substance name	End Use	Exposure routes	Potential health effects	Value
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Workers	Inhalation	Long-term systemic effects	2085 mg/m ³
	Workers	Skin contact	Long-term systemic effects	300 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	447 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	149 mg/kg bw/day
Di(2-ethylhexyl) adipate	Consumers	Ingestion	Long-term systemic effects	149 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	17,8 mg/m ³
	Workers	Skin contact	Long-term systemic effects	25,5 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	4,4 mg/m ³
n-Hexane	Consumers	Skin contact	Long-term systemic effects	13 mg/kg bw/day
	Consumers	Ingestion	Long-term systemic effects	1,3 mg/kg bw/day
	Workers	Skin contact	Long-term systemic effects	11 mg/kg bw/day
	Workers	Inhalation	Long-term systemic effects	75 mg/m ³
	Consumers	Skin contact	Long-term systemic effects	5,3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	16 mg/m ³
	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
Di(2-ethylhexyl) adipate	Fresh water	0,0032 mg/l
	Marine water	0,0032 mg/l
	Intermittent use/release	0,0032 mg/l
	Sewage treatment plant	35 mg/l
	Fresh water sediment	15,6 mg/kg
	Marine sediment	17 mg/kg
	Soil	0,865 mg/kg

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8.2 Exposure controls**Engineering measures**

Minimize workplace exposure concentrations.

Use only in an area equipped with explosion-proof exhaust ventilation if advised by assessment of the local exposure potential

Use with local exhaust ventilation.

Personal protective equipment

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

Hand protection

Material	: Nitrile rubber
Break through time	: 480 min
Glove thickness	: 0,45 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, unless assessment demonstrates that the risk of explosive atmospheres or flash fires is low
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
Propellant	: Isobutane, Propane, Butane
Colour	: light brown
Odour	: characteristic
Odour Threshold	: No data available

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pH : No data available

Melting point/freezing point : No data available

Initial boiling point and boiling range : -40 °C

Flash point : Not applicable

Evaporation rate : Not applicable

Flammability (solid, gas) : Extremely flammable aerosol.

Upper explosion limit / Upper flammability limit : 11 %(V)

Lower explosion limit / Lower flammability limit : 1 %(V)

Vapour pressure : Not applicable

Relative vapour density : Not applicable

Density : 0,738 g/cm³ (20 °C)

Solubility(ies)
Water solubility : insoluble

Partition coefficient: n-octanol/water : Not applicable

Auto-ignition temperature : ca. 200 °C

Decomposition temperature : No data available

Viscosity
Viscosity, kinematic : < 7 mm²/s

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.

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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.

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

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

Acute inhalation toxicity : LC50 (Rat): > 5,61 mg/l
Exposure time: 4 h
Test atmosphere: vapour

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Acute oral toxicity : LD50 (Rat): > 5.840 mg/kg
Remarks: Based on data from similar materials

Acute inhalation toxicity : LC50 (Rat): > 23,3 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Remarks: Based on data from similar materials

Acute dermal toxicity : LD50 (Rat): > 2.800 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

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Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
Remarks: Based on data from similar materials
- Acute inhalation toxicity : LC50 (Rat): > 4.951 mg/m³
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 (Rabbit): > 3.160 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on data from similar materials

n-Hexane:

- Acute oral toxicity : LD50 (Rat): > 5.000 mg/kg
- Acute inhalation toxicity : LC50 (Rat): > 31,86 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rabbit): > 2.000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation

Causes skin irritation.

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

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

- Species : Rabbit
Result : Skin irritation
Remarks : Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

- Species : Rabbit
Result : Mild skin irritation
- Assessment : Repeated exposure may cause skin dryness or cracking.

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n-Hexane:

Species : Rabbit
Result : Skin irritation
Remarks : Based on data from similar materials

Serious eye damage/eye irritation

Not classified based on available information.

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

Species : Rabbit
Result : No eye irritation

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rabbit
Method : OECD Test Guideline 405
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:**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
Result : negative
Remarks : Based on data from similar materials

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Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Test Type : Maximisation Test
Exposure routes : Skin contact
Species : Guinea pig
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:**Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Genotoxicity in vitro : 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: OPPTS 870.5395
Result: negative

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

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

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Ingestion

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Result: negative

Germ cell mutagenicity- Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

n-Hexane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

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

Test Type: Mutagenicity (in vivo mammalian bone-marrow cytogenetic test, chromosomal analysis)
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Carcinogenicity

Not classified based on available information.

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

Species : Mouse
Application Route : Skin contact
Exposure time : 102 weeks
Result : negative

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rat
Application Route : inhalation (vapour)
Exposure time : 105 weeks
Result : negative
Remarks : Based on data from similar materials

Carcinogenicity - Assessment : Classified based on benzene content < 0.1% (Regulation (EC) 1272/2008, Annex VI, Part 3, Note P)

n-Hexane:

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

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Result : negative
Remarks : Based on data from similar materials

Reproductive toxicity

Not classified based on available information.

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

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, C7, n-alkanes, isoalkanes, cyclics:

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: Fertility/early embryonic development
Species: Rat
Application Route: inhalation (vapour)
Result: negative
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Effects on fertility : Test Type: Reproduction/Developmental toxicity screening test
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
Remarks: Based on data from similar materials

n-Hexane:

Effects on fertility : Test Type: Fertility/early embryonic development
Application Route: inhalation (vapour)
Result: positive

Effects on foetal development : Test Type: Embryo-foetal development
Species: Mouse

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Application Route: inhalation (vapour)

Result: negative

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

STOT - single exposure

May cause drowsiness or dizziness.

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

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Assessment : May cause drowsiness or dizziness.

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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:**

Exposure routes : inhalation (vapour)

Target Organs : Central nervous system

Assessment : May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity**Components:****Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Species : Rat

NOAEL : > 20 mg/l

Application Route : inhalation (vapour)

Exposure time : 13 Weeks

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Species : Rat

NOAEL : 12,47 mg/l

Application Route : Inhalation

Exposure time : 90 Days

Remarks : Based on data from similar materials

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Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Species : Rat
NOAEL : 10.186 mg/m³
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

n-Hexane:

Species : Mouse
LOAEL : 1,76 mg/l
Application Route : inhalation (vapour)
Exposure time : 13 Weeks

Species : Rat, male
NOAEL : 568 mg/kg
LOAEL : 3.973 mg/kg
Application Route : Ingestion
Exposure time : 90 Days

Aspiration toxicity

Not classified based on available information.

Components:**Hydrocarbons, C6-C7, n-alkanes, 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.

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

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
Symptoms: Central nervous system depression

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SECTION 12: Ecological information**12.1 Toxicity****Components:****Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Toxicity to fish : LL50 (Pimephales promelas (fathead minnow)): 8,2 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction

Toxicity to daphnia and other : EC50 (Daphnia magna (Water flea)): 4,5 mg/l
aquatic invertebrates : 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 (Pseudokirchneriella subcapitata (green algae)): 3,1 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Pseudokirchneriella subcapitata (green algae)): 0,5 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 : NOELR: 2,6 mg/l
aquatic invertebrates (Chronic toxicity) : Exposure time: 21 d
Species: Daphnia magna (Water flea)
Method: OECD Test Guideline 211

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 13,4 mg/l
Exposure time: 96 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 203
Remarks: No toxicity at the limit of solubility

Toxicity to daphnia and other : EL50 (Daphnia magna (Water flea)): 3 mg/l
aquatic invertebrates : 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

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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) : NOEC: 0,17 mg/l
Exposure time: 21 d
Species: Daphnia magna (Water flea)
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 211
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Toxicity to fish : LL50 (Oncorhynchus mykiss (rainbow trout)): > 10 - 30 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)): > 22 - 46 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 (Pseudokirchneriella subcapitata (green algae)): > 1.000 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

NOELR (Pseudokirchneriella subcapitata (green algae)): 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 : EL50 (Daphnia magna (Water flea)): 3,88 mg/l
Exposure time: 48 h
Test substance: Water Accommodated Fraction

Toxicity to algae : EL50 (Pseudokirchneriella subcapitata (green algae)): 55 mg/l
Exposure time: 72 h
Test substance: Water Accommodated Fraction
Method: OECD Test Guideline 201

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Remarks: Based on data from similar materials

NOEL (Pseudokirchneriella subcapitata (green algae)): 30 mg/l

Exposure time: 72 h

Test substance: Water Accommodated Fraction

Method: OECD Test Guideline 201

Remarks: Based on data from similar materials

12.2 Persistence and degradability**Components:****Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

Biodegradability : Result: Readily biodegradable.
Biodegradation: 77,05 %
Exposure time: 28 d
Method: OECD Test Guideline 301F

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

Hydrocarbons, C9-C10, n-alkanes, isoalkanes, cyclics, <2% aromatics:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 89 %
Exposure time: 28 d
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

n-Hexane:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
Remarks: Based on data from similar materials

12.3 Bioaccumulative potential**Components:****Hydrocarbons, C6-C7, n-alkanes, isoalkanes, cyclics, <5% n-hexane:**

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

Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics:

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

n-Hexane:

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

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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) |

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 |
|-----|---|---|

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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

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14.6 Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

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

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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

Full text of H-Statements

H225	: Highly flammable liquid and vapour.
H226	: Flammable liquid and vapour.
H304	: May be fatal if swallowed and enters airways.
H315	: Causes skin irritation.
H336	: May cause drowsiness or dizziness.
H361f	: Suspected of damaging fertility.
H373	: May cause damage to organs through prolonged or repeated exposure.
H411	: Toxic to aquatic life with long lasting effects.
H412	: Harmful to aquatic life with long lasting effects.

Full text of other abbreviations

Aquatic Chronic	: Long-term (chronic) aquatic hazard
Asp. Tox.	: Aspiration hazard
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
ZA BEI	: South Africa. Hazardous Chemical Substances Regulations, Biological Exposure Indices.
ZA OEL	: South Africa. Hazardous Chemical Substances Regulations, Occupational Exposure Limits
2000/39/EC / TWA	: Limit Value - eight hours
2006/15/EC / TWA	: Limit Value - eight hours
ZA OEL / TWA OEL-RL	: Long term occupational exposure limits - recommended limit
ZA OEL / STEL OEL-RL	: Short term occupational exposure limits - recommended limit

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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 Substances; (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; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; 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:

Aerosol 1	H222, H229
Skin Irrit. 2	H315
STOT SE 3	H336
Aquatic Chronic 3	H412

Classification procedure:

Based on product data or assessment
Calculation method
Calculation method
Calculation method

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

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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.

ZA / EN