

## HHS Grease 400ml

Version 4.0      Revision Date: 03.05.2016      SDS Number: 658737-00001      Date of last issue: 18.03.2014  
Date of first issue: 21.12.2009

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

#### 1.1 Product identifier

Trade name : HHS Grease 400ml  
Product code : 0893 106 7

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

Use of the Sub-stance/Mixture : Polishing agent and lubricant

#### 1.3 Details of the supplier of the safety data sheet

Company : Würth UK Ltd  
1 Centurion Way  
Erith, Kent  
Telephone : +44 (0)3300 555 444  
Telefax : +44 (0)3300 555 666  
E-mail address of person responsible for the SDS : prodsafe@wuerth.com

#### 1.4 Emergency telephone number

+44 (0)870 190 6777

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### 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.
Chronic aquatic toxicity, 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:  
Isobutane

### 2.3 Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

Chemical name	CAS-No. EC-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 SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 10 - < 20
Hydrocarbons, C7, n-alkanes, isoalkanes, cyclics	Not Assigned  01-2119475515-33	Flam. Liq. 2; H225 Skin Irrit. 2; H315 STOT SE 3; H336 Asp. Tox. 1; H304 Aquatic Chronic 2; H411	>= 2.5 - < 5

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n-Hexane	110-54-3 203-777-6	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	$\geq 0.3 - < 1$
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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 (CO<sub>2</sub>)  
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  
Metal 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.

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### 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.

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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.

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## 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 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.

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 : Keep in properly labelled containers. Store locked up. 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:

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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

### 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
Titanium dioxide	13463-67-7	TWA (inhalable dust)	10 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m <sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m <sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			
		TWA (Respirable dust)	4 mg/m <sup>3</sup>	GB EH40
Further information	For the purposes of these limits, respirable dust and inhalable dust are those fractions of airborne dust which will be collected when sampling is undertaken in accordance with the methods described in MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust, The			

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	<p>COSHH definition of a substance hazardous to health includes dust of any kind when present at a concentration in air equal to or greater than 10 mg.m<sup>-3</sup> 8-hour TWA of inhalable dust or 4 mg.m<sup>-3</sup> 8-hour TWA of respirable dust. This means that any dust will be subject to COSHH if people are exposed above these levels. Some dusts have been assigned specific WELs and exposure to these must comply with the appropriate limit., Most industrial dusts contain particles of a wide range of sizes. The behaviour, deposition and fate of any particular particle after entry into the human respiratory system and the body response that it elicits, depend on the nature and size of the particle. HSE distinguishes two size fractions for limit-setting purposes termed 'inhalable' and 'respirable'. Inhalable dust approximates to the fraction of airborne material that enters the nose and mouth during breathing and is therefore available for deposition in the respiratory tract. Respirable dust approximates to the fraction that penetrates to the gas exchange region of the lung. Fuller definitions and explanatory material are given in MDHS14/3., Where dusts contain components that have their own assigned WEL, all the relevant limits should be complied with., Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used</p>			
n-Hexane	110-54-3	TWA	20 ppm 72 mg/m <sup>3</sup>	2006/15/EC
Further information	Indicative			
		TWA	20 ppm 72 mg/m <sup>3</sup>	GB EH40
Further information	Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used			

### 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 <sup>3</sup>
	Workers	Skin contact	Long-term systemic effects	300 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	447 mg/m <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	149 mg/kg bw/day
Titanium dioxide	Consumers	Ingestion	Long-term systemic effects	149 mg/kg bw/day
	Workers	Inhalation	Long-term local effects	10 mg/m <sup>3</sup>
n-Hexane	Consumers	Ingestion	Long-term systemic effects	700 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 <sup>3</sup>
	Consumers	Skin contact	Long-term systemic effects	5.3 mg/kg bw/day
	Consumers	Inhalation	Long-term systemic effects	16 mg/m <sup>3</sup>
	Consumers	Ingestion	Long-term systemic	4 mg/kg

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

Substance name	Environmental Compartment	Value
Distillates (petroleum), hydrotreated heavy paraffinic	Oral (Secondary Poisoning)	9.33 mg/kg food
Titanium dioxide	Fresh water	0.184 mg/l
	Marine water	0.0184 mg/l
	Intermittent use/release	0.193 mg/l
	Sewage treatment plant	100 mg/l
	Fresh water sediment	1000 mg/kg
	Marine sediment	100 mg/kg
	Soil	100 mg/kg

### 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 : 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.  
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



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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Appearance	:	aerosol
Propellant	:	Isobutane, Propane, Butane
Colour	:	white
Odour	:	solvent-like
Odour Threshold	:	No data available
pH	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	60 °C
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	Extremely flammable aerosol.
Upper explosion limit	:	11 %(V)
Lower explosion limit	:	1 %(V)
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Density	:	0.773 g/cm <sup>3</sup> (20 °C)
Solubility(ies) Water solubility	:	insoluble
Partition coefficient: n-octanol/water	:	Not applicable
Auto-ignition temperature	:	200 °C
Decomposition temperature	:	No data available
Viscosity Viscosity, dynamic	:	Not applicable
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.

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### 9.2 Other information

No data available

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## 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.

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## 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:**

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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

### **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**

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

### **n-Hexane:**

Species: Rabbit  
Result: Skin irritation

### **Serious eye damage/eye irritation**

Not classified based on available information.

### **Components:**

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

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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

### 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

### 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)

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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

### 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:

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

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

#### n-Hexane:

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

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### **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

#### **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:**

#### **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.

#### **n-Hexane:**

Assessment: May cause drowsiness or dizziness.

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### **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:**

#### **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

#### **n-Hexane:**

Species: Rat

LOAEL: 10.6 mg/l

Application Route: inhalation (vapour)

Exposure time: 16 Weeks

### **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.

#### **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.

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### Experience with human exposure

#### Components:

##### n-Hexane:

Inhalation : Target Organs: Central nervous system

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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 aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.5 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)): 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 aquatic invertebrates (Chronic toxicity) : NOELR: 2.6 mg/l  
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 aquatic invertebrates : EL50 (Daphnia magna (Water flea)): 3 mg/l  
Exposure time: 48 h



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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) : 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

### **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:

#### **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

### **n-Hexane:**

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Biodegradability : Result: Readily biodegradable.  
Biodegradation: 98 %  
Exposure time: 28 d  
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-octanol/water : log Pow: 4  
Remarks: Based on data from similar materials

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

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

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## 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:

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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

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### 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 : 2.1  
ADR : 2.1  
RID : 2.1  
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

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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.

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## SECTION 15: Regulatory information

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

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

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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

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
34	Petroleum products: (a) gasolines and naphthas, (b) kerosenes (including jet fuels), (c) gas oils (including diesel fuels, home heating oils and gas oil blending streams), (d) heavy fuel oils (e) alternative fuels serving the same purposes and with similar properties as regards flammability and environmental hazards as the products referred to in points (a) to (d)	2,500 t	25,000 t
18	Liquefied extremely flammable gases (including LPG) and natural gas	50 t	200 t

Volatile organic compounds : Directive 2010/75/EU of 24 November 2010 on industrial emissions (integrated pollution prevention and control)  
Volatile organic compounds (VOC) content: 86.99 %, 535 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.

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## SECTION 16: Other information

### Full text of H-Statements

- H225 : Highly flammable liquid and vapour.
- H304 : May be fatal if swallowed and enters airways.
- H315 : Causes skin irritation.
- H336 : May cause drowsiness or dizziness.
- H361fd : Suspected of damaging fertility. Suspected of damaging the unborn child.
- H373 : May cause damage to organs through prolonged or repeated

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H411 : exposure.  
: Toxic to aquatic life with long lasting effects.

### Full text of other abbreviations

Aquatic Chronic : Chronic aquatic toxicity  
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  
2006/15/EC : Europe. Indicative occupational exposure limit values  
GB EH40 : UK. EH40 WEL - Workplace Exposure Limits  
2006/15/EC / TWA : Limit Value - eight hours  
GB EH40 / TWA : Long-term exposure limit (8-hour TWA reference period)

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; 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/>

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

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