

# CERTIFICATE OF ANALYSIS

## ERM<sup>®</sup> - EF213

PETROL		
	Mass fraction	
	Certified value <sup>1)</sup> [mg/kg]	Uncertainty <sup>2)</sup> [mg/kg]
Sulfur	9.1	0.8
<p>1) Unweighted mean of three sets of results obtained using isotope-dilution mass spectrometry applied as primary method of measurement. The value is traceable to the International System of Units (SI).</p> <p>2) The certified uncertainty is the expanded uncertainty estimated in accordance with the Guide to the Expression of Uncertainty in Measurement (GUM) with a coverage factor <math>k = 2</math>, corresponding to a level of confidence of about 95 %.</p>		

This certificate is valid for one year after purchase.

Sales date:

The minimum amount of sample to be used is 0.20 g.

### NOTE

European Reference Material ERM<sup>®</sup>-EF213 was produced and certified under the responsibility of BAM in cooperation with IRMM and LGC according to the principles laid down in the technical guidelines of the European Reference Materials<sup>®</sup> co-operation agreement between BAM-IRMM-LGC. Information on these guidelines is available on the internet (<http://www.erm-crm.org>).

Accepted as an ERM<sup>®</sup>, Berlin, January 2007

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## DESCRIPTION OF THE SAMPLE

This material is a petroleum product containing sulfur (S) in its natural forms, closely matching commercial petrol fuels. The absence of artificially added sulfur species avoids any effects arising from species specific analytical methods. A suitable supply of petrol was obtained in bulk from ESSO Deutschland GmbH, Ingolstadt, Germany. The material was dispensed into 19 mL portions into clear borosilicate glass ampoules. More details can be found in the certification report.

## ANALYTICAL METHOD USED FOR CERTIFICATION

Isotope dilution thermal-ionisation mass spectrometry (ID-TIMS) applied as a primary method of measurement

Isotope dilution inductively-coupled plasma mass-spectrometry (ID-ICP-MS) applied as a primary method of measurement

Results using methods described in EN ISO 20846, ASTM D5453-04 and IP-532/05 did not differ from the certified values.

## PARTICIPANTS

- Bundesanstalt für Materialforschung und –prüfung (BAM), Berlin (DE) (ISO 17025 accreditation DAP PL-2614.14)
- EC-JRC, Institute for Reference Materials and Measurements, Isotope Measurements Unit, Geel (BE) (ISO 17025 accreditation BELAC accepted; no certificate at 22/1/2007; ISO Guide 34 accreditation BELAC 268-TEST)
- LGC Ltd., Teddington (UK) (ISO 17025 accreditation UKAS 0003G)
- Referat Laboratorium Celne, Terespol (PL) (ISO 17025 accreditation PCA AB656)

## SAFETY INFORMATION

R12	Extremely flammable
R38	Irritating to skin
R45	May cause cancer
R48/20/21/22	Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R65	Harmful: may cause lung damage if swallowed.
R67	Vapours may cause drowsiness and dizziness.
S2	Keep out of the reach of children
S23	Do not breathe vapour
S24	Avoid contact with skin
S29	Do not empty into drains
S43	In case of fire, use foam/dry powder/CO <sub>2</sub> . Never use water jets.
S45	In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)
S53	Avoid exposure - obtain special instructions before use.
S61	Avoid release to the environment.
S62	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

For non-fuel use only - "Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use."

## INSTRUCTIONS FOR USE

This is a highly volatile material and care should be taken to minimise evaporation during handling and preparation of samples for analysis. Before opening, the contents should be mixed by carefully inverting the ampoule several times. For best results, samples should be prepared gravimetrically. The material should be used immediately after the ampoule seal has been broken. The certified values are not valid (to within the stated uncertainties) for any material in an ampoule which has been left open for more than 5 minutes, due to the volatility of the petrol.

The main purpose of the materials is to assess method performance, i.e. for checking accuracy of analytical results. As any reference material, it can also be used for control charts or validation studies.

Comparing an analytical result with the certified value (see also ERM Application Note 1; [www.erm-crm.org](http://www.erm-crm.org))

A result is unbiased if the combined uncertainty of measurement and certified value covers the difference between the certified value and the measurement result.

Use in quality control charts

The materials can be used for quality control charts. Different CRM units will give the same result as heterogeneity was found negligible.

Use as a calibrant

It is not recommended to use matrix materials as calibrants. If used nevertheless, the uncertainty of the certified value shall be taken into consideration in the final estimation of measurement uncertainty.

## STORAGE

The materials should be stored at  $20 \pm 5$  °C in the dark. Exposure to light will lead to browning of the material. However, BAM cannot be held responsible for changes that happen during storage of the material at the customer's premises, especially of opened samples.

## LEGAL NOTICE

Neither BAM, its contractors nor any person acting on their behalf:

(a) make any warranty or representation, express or implied, that the use of any information, material, apparatus, method or process disclosed in this document does not infringe any privately owned intellectual property rights;

or

(b) assume any liability with respect to, or for damages resulting from, the use of any information, material, apparatus, method or process disclosed in this document save for loss or damage arising solely and directly from the negligence of BAM.

## NOTE

A detailed technical report is available on [www.erm-crm.org](http://www.erm-crm.org). A paper copy can be obtained from BAM on request.

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

**ERM-EF213**

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

Certified Reference Material

**1.2.2 Uses advised against**

None known.

**1.3 Details of the supplier of the safety data sheet**
**Company**

Bundesanstalt für Materialforschung und -prüfung  
Division 1.1, Dr. Jochen Vogl  
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12205 Berlin / GERMANY  
Phone +49 (0)30 8104-0  
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Homepage [www.bam.de](http://www.bam.de)  
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**Address enquiries to**
**Technical information**

[jochen.vogl@bam.de](mailto:jochen.vogl@bam.de)

**Safety Data Sheet**

[sdb@chemiebuero.de](mailto:sdb@chemiebuero.de)

**1.4 Emergency telephone number**
**Advisory body**

+49 (0)30 30686700  
Giftnotruf Berlin  
Charité-Universitätsmedizin Berlin  
Campus Benjamin Franklin  
Hindenburgdamm 30  
12203 Berlin  
To avoid language problems and in case of nonavailability it is recommended to contact your national poison control centre.  
A list of national poison control centres inside the EU can be obtained at:  
[http://ec.europa.eu/growth/sectors/chemicals/poison-centres/index\\_en.htm](http://ec.europa.eu/growth/sectors/chemicals/poison-centres/index_en.htm)  
For poison centres outside the EU the information is listed at the world directory of poison control centres at the WHO homepage:  
[http://www.who.int/gho/phe/chemical\\_safety/poisons\\_centres/en/](http://www.who.int/gho/phe/chemical_safety/poisons_centres/en/)

**SECTION 2: Hazards identification**
**2.1 Classification of the substance or mixture [REGULATION (EC) No 1272/2008]**

Flam. Liq. 1: H224 Extremely flammable liquid and vapour.  
Skin Irrit. 2: H315 Causes skin irritation.  
Asp. Tox. 1: H304 May be fatal if swallowed and enters airways.  
Muta. 1B: H340 May cause genetic defects.  
Carc. 1B: H350 May cause cancer.  
STOT SE 3: H336 May cause drowsiness or dizziness.  
Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects.

## 2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

## Hazard pictograms



## Signal word

DANGER

## Contains:

Gasoline

Benzene

## Hazard statements

H224 Extremely flammable liquid and vapour.  
 H315 Causes skin irritation.  
 H304 May be fatal if swallowed and enters airways.  
 H340 May cause genetic defects.  
 H350 May cause cancer.  
 H336 May cause drowsiness or dizziness.  
 H411 Toxic to aquatic life with long lasting effects.

## Precautionary statements

P201 Obtain special instructions before use.  
 P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
 P233 Keep container tightly closed.  
 P260 Do not breathe mist / vapours / spray.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P301+P310 IF SWALLOWED: Immediately call a POISON CENTER / doctor / ...  
 P331 Do NOT induce vomiting.  
 P308+P313 IF exposed or concerned: Get medical advice / attention.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P273 Avoid release to the environment.

## Special labelling

Restricted to professional users.

## 2.3 Other hazards

## Physico-chemical hazards

Evolution of flammable gases/vapours.

## Human health dangers

Inhalation may damage health.  
 If swallowed or in the event of vomiting, risk of product entering the lungs.  
 May cause irritation of eye.  
 May cause irritation of respiratory organs.

## Environmental hazards

Does not contain any PBT or vPvB substances.

## Other hazards

Further hazards were not determined with the current level of knowledge.

## SECTION 3: Composition / Information on ingredients

## Product-type:

The product is a mixture.

Range [%]	Substance
> 90	Gasoline CAS: 86290-81-5, EINECS/ELINCS: 289-220-8, EU-INDEX: 649-378-00-4 GHS/CLP: Flam. Liq. 1: H224 - Skin Irrit. 2: H315 - Carc. 1B: H350 - Muta. 1B: H340 - Repr. 2: H361d - Asp. Tox. 1: H304 - STOT SE 3: H336 - Aquatic Chronic 2: H411
> 0.1	Benzene CAS: 71-43-2, EINECS/ELINCS: 200-753-7, EU-INDEX: 601-020-00-8 GHS/CLP: Flam. Liq. 2: H225 - Carc. 1A: H350 - Muta. 1B: H340 - STOT RE 1: H372 - Asp. Tox. 1: H304 - Eye Irrit. 2: H319 - Skin Irrit. 2: H315
< 0.002	Sulfur CAS: 7704-34-9, EINECS/ELINCS: 231-722-6, EU-INDEX: 016-094-00-1 GHS/CLP: Skin Irrit. 2: H315

## Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
 For full text of H-statements: see SECTION 16.

#### SECTION 4: First aid measures

##### 4.1 Description of first aid measures

<b>General information</b>	Take off contaminated clothing and wash before reuse.
<b>Inhalation</b>	Ensure supply of fresh air. Get medical advice.
<b>Skin contact</b>	In case of contact with skin wash off immediately with soap and water. Consult a doctor if skin irritation persists.
<b>Eye contact</b>	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
<b>Ingestion</b>	Do not induce vomiting. Rinse out mouth and give plenty of water to drink. Consult a doctor immediately. Keep airways free.

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

Irritant effects  
Redness  
Drowsiness  
Vertigo  
Nausea, vomiting.

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

If swallowed or in the event of vomiting, risk of product entering the lungs.  
Treat symptomatically.

#### SECTION 5: Fire-fighting measures

##### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	Foam, dry powder, water spray jet, carbon dioxide.
<b>Extinguishing media that must not be used</b>	Full water jet

##### 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Not combusted hydrocarbons.

##### 5.3 Advice for firefighters

Use self-contained breathing apparatus.  
Do not inhale explosion and/or combustion gases.  
Cool containers at risk with water spray jet.  
Heat causes increase in pressure and risk of bursting - Keep away from the container.  
Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

#### SECTION 6: Accidental release measures

##### 6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.  
Ensure adequate ventilation.  
Use personal protective equipment (protective gloves, safety glasses, protective clothing).  
Use breathing apparatus if exposed to vapours/aerosol.  
Forms slippery surfaces with water.

##### 6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).  
Do not discharge into the drains/surface waters/groundwater.  
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

**6.3 Methods and material for containment and cleaning up**

Take up with absorbent material (e.g. general-purpose binder).  
Dispose of absorbed material in accordance within the regulations.

**6.4 Reference to other sections**

See SECTION 8+13

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

Use solvent-resistant equipment.  
Use only in well-ventilated areas.  
Avoid formation of aerosols.  
Avoid spilling or spraying in enclosed areas.  
  
Keep away from open flames, hot surfaces and sources of ignition.  
Do not smoke.  
Vapours/spray can form an explosive mixture with air.  
Ignitable mixtures can be formed in the empty container.  
Use explosion-proofed equipment/fittings and non-sparkling tools.  
  
Do not eat, drink or smoke when using this product.  
Cloths contaminated with product should not be kept in trouser pockets.  
Take off contaminated clothing and wash before reuse.  
After worktime and before work breaks the affected skin areas must be thoroughly cleaned.  
Use barrier skin cream.  
Contaminated work clothing should not be allowed out of the workplace.

**7.2 Conditions for safe storage, including any incompatibilities**

Prevent penetration into the ground.  
Provide solvent-resistant and impermeable floor.  
Keep only in original container.  
Only use containers that are approved specifically for the substance/product.  
  
Do not store together with oxidizing agents.  
Do not store together with acids.  
Do not store together with metals.  
Do not store with oxidizing or self-igniting materials.  
  
Keep container tightly closed.  
Keep container in a well-ventilated place.  
Protect from heat/overheating and from sun.  
Keep in a cool place. Store in a dry place.  
Keep under lock and key. Should only be accessible to specialists or people authorized by them.

**7.3 Specific end use(s)**

See product use, SECTION 1.2

**SECTION 8: Exposure controls / personal protection****8.1 Control parameters****Ingredients with occupational exposure limits to be monitored (GB)**

Substance
Benzene
CAS: 71-43-2, EINECS/ELINCS: 200-753-7, EU-INDEX: 601-020-00-8
Long-term exposure: 1 ppm, 3,25 mg/m <sup>3</sup> , Carc, Sk

## 8.2 Exposure controls

<b>Additional advice on system design</b>	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
<b>Eye protection</b>	safety glasses (EN 166:2001)
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. Nitrile rubber, >480 min (EN 374-1/-2/-3). Gloves (solvent-resistant).
<b>Skin protection</b>	Solvent-resistant protective clothing.
<b>Other</b>	Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier. Avoid contact with eyes and skin. Do not breathe vapour/spray. It is essential for pregnant women to avoid inhaling the product and not to let it come in contact with the skin.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Short term: filter apparatus, filter AX (DIN EN 14387).
<b>Thermal hazards</b>	See SECTION 7.
<b>Delimitation and monitoring of the environmental exposition</b>	Protect the environment by applying appropriate control measures to prevent or limit emissions.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<b>Form</b>	liquid
<b>Color</b>	clear amber colour
<b>Odor</b>	solvent-like
<b>Odour threshold</b>	No information available.
<b>pH-value</b>	No information available.
<b>pH-value [1%]</b>	No information available.
<b>Boiling point [°C]</b>	25 - 220°C
<b>Flash point [°C]</b>	- 40°C
<b>Flammability (solid, gas) [°C]</b>	not applicable
<b>Lower explosion limit</b>	No information available.
<b>Upper explosion limit</b>	No information available.
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	No information available.
<b>Density [g/ml]</b>	0.72 - 0.78
<b>Bulk density [kg/m³]</b>	not applicable
<b>Solubility in water</b>	immiscible
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Viscosity</b>	< 1 mm²/s (20°C)
<b>Relative vapour density determined in air</b>	3/4
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	No information available.
<b>Autoignition temperature [°C]</b>	No information available.
<b>Decomposition temperature [°C]</b>	No information available.

### 9.2 Other information

none



## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

### 10.2 Chemical stability

The product is stable under standard conditions.

### 10.3 Possibility of hazardous reactions

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.

Uncleaned empty vessels may contain product gases which can form explosive mixtures with air.

Reactions with strong oxidizing agents.

Reactions with strong acids.

Reactions with alkali metals.

### 10.4 Conditions to avoid

See SECTION 7.2.

Strong heating.

### 10.5 Incompatible materials

See SECTION 10.3.

### 10.6 Hazardous decomposition products

Flammable gases/vapours.

Oxide of carbon (COx)

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

Substance
Benzene, CAS: 71-43-2
LD50, dermal, Rabbit: > 5000 mg/kg (Lit.).
LD50, oral, Rat: > 930 mg/kg (Lit.).
LC50, inhalative, Rat: 13700 ppm/4h(Lit.).
LC50, inhalative, Rat: 45 mg/l/4h(Lit.).
Sulfur, CAS: 7704-34-9
LD50, dermal, Rabbit: > 2000 mg/kg (IUCLID).
LD50, oral, Rat: > 5000 mg/kg (IUCLID).
LC50, inhalative, Rat: > 9,23 mg/l (4h) (IUCLID).
Gasoline, CAS: 86290-81-5
LD50, dermal, Rabbit: > 2000 mg/kg (Lit.).
LD50, oral, Rat: > 2000 mg/kg (Lit.).
LC50, inhalative, Rat: > 5 mg/l (Lit.).

<b>Serious eye damage/irritation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Skin corrosion/irritation</b>	Irritant Calculation method
<b>Respiratory or skin sensitisation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Vapours may cause drowsiness and dizziness.
<b>Specific target organ toxicity — repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure through inhalation.
<b>Mutagenicity</b>	May cause genetic defects.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Can cause cancer.
<b>Aspiration hazard</b>	Based on the available information, the classification criteria are fulfilled.
<b>General remarks</b>	May cause irritation of respiratory organs. May cause irritation of eye. Disturbances of the central nervous system. Has a degreasing effect on the skin.  Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists.

## SECTION 12: Ecological information

### 12.1 Toxicity

Substance
Benzene, CAS: 71-43-2
LC50, (96h), Pimephales promelas: 15,1 mg/l (Lit.).
LC50, (96h), Oncorhynchus mykiss: 5,3 mg/l (Lit.).
EC50, (48h), Daphnia magna: 10 mg/l (Lit.).
EC50, (72h), Selenastrum capricornutum: 29 mg/l (Lit.).
EC50, (24h), Daphnia magna: 18 mg/l (Lit.).
Sulfur, CAS: 7704-34-9
LC50, (96h), Brachidanio rerio: 866 mg/l (IUCLID).
EC0, (24h), Daphnia magna: > 10000 mg/l (IUCLID).
Gasoline, CAS: 86290-81-5
NOEC, Daphnia magna: > 1 - < 10 mg/l (geschätzt).
NOEC, fish: > 1 - < 10 mg/l (geschätzt).
LL50, (48h), Daphnia magna: > 1 - < 10 mg/l (geschätzt).
LL50, (96h), fish: > 1 - < 10 mg/l (geschätzt).

### 12.2 Persistence and degradability

<b>Behaviour in environment compartments</b>	No information available.
<b>Behaviour in sewage plant</b>	No information available.
<b>Biological degradability</b>	No information available.

### 12.3 Bioaccumulative potential

No evidence for bioaccumulation potential.

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 12.6 Other adverse effects

Ecological data of complete product are not available.  
Do not discharge product unmonitored into the environment or into the drainage.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

##### Product

Dispose of as hazardous waste.  
Coordinate disposal with the authorities if necessary.

**Waste no. (recommended)** 160506\*

##### Contaminated packaging

Uncontaminated packaging may be taken for recycling.  
Packaging that cannot be cleaned should be disposed of as for product.

**Waste no. (recommended)** 150110\*

### SECTION 14: Transport information

#### 14.1 UN number

**Transport by land according to ADR/RID** 3295

**Inland navigation (ADN)** 3295

**Marine transport in accordance with IMDG** 3295

**Air transport in accordance with IATA** 3295

**14.2 UN proper shipping name**

Transport by land according to ADR/RID Hydrocarbons, liquid, n.o.s. (Low boiling point naphtha - unspecified)

- Classification Code F1

- Label



- ADR LQ 5 l

- ADR 1.1.3.6 (8.6)

Transport category (tunnel restriction code) 1 (D/E)

Inland navigation (ADN)

Hydrocarbons, liquid, n.o.s. (Low boiling point naphtha - unspecified)

- Classification Code F1

- Label



Marine transport in accordance with IMDG

Hydrocarbons, liquid, n.o.s. (Low boiling point naphtha - unspecified)

- EMS

F-E, S-D

- Label



- IMDG LQ

0.5 l

Air transport in accordance with IATA

Hydrocarbons, liquid, n.o.s. (Low boiling point naphtha - unspecified)

- Label

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID 3

Inland navigation (ADN) 3

Marine transport in accordance with IMDG 3

Air transport in accordance with IATA 3

**14.4 Packing group**

Transport by land according to ADR/RID I

Inland navigation (ADN) I

Marine transport in accordance with IMDG I

Air transport in accordance with IATA I

#### 14.5 Environmental hazards

Transport by land according to ADR/RID	yes
Inland navigation (ADN)	yes
Marine transport in accordance with IMDG	MARINE POLLUTANT
Air transport in accordance with IATA	yes

#### 14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

No information available.

### SECTION 15: Regulatory information

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

EEC-REGULATIONS	1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2018).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011).
- Observe employment restrictions for people	Observe employment restrictions for young people. Observe employment restrictions for mothers-to-be and nursing mothers.
- VOC (2010/75/CE)	~100%

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment has not been carried out.

### SECTION 16: Other information

#### 16.1 Hazard statements (SECTION 03)

H319 Causes serious eye irritation.  
H372 Causes damage to organs through prolonged or repeated exposure.  
H225 Highly flammable liquid and vapour.  
H411 Toxic to aquatic life with long lasting effects.  
H336 May cause drowsiness or dizziness.  
H304 May be fatal if swallowed and enters airways.  
H361d Suspected of damaging the unborn child.  
H340 May cause genetic defects.  
H350 May cause cancer.  
H315 Causes skin irritation.  
H224 Extremely flammable liquid and vapour.

**16.2 Abbreviations and acronyms:**

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route  
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses  
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure  
 ATE = acute toxicity estimate  
 CAS = Chemical Abstracts Service  
 CLP = Classification, Labelling and Packaging  
 DMEL = Derived Minimum Effect Level  
 DNEL = Derived No Effect Level  
 EC50 = Median effective concentration  
 ECB = European Chemicals Bureau  
 EEC = European Economic Community  
 EINECS = European Inventory of Existing Commercial Chemical Substances  
 ELINCS = European List of Notified Chemical Substances  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk  
 IC50 = Inhibition concentration, 50%  
 IMDG = International Maritime Code for Dangerous Goods  
 IUCLID = International Uniform Chemical Information Database  
 LC50 = Lethal concentration, 50%  
 LD50 = Median lethal dose  
 LC0 = lethal concentration, 0%  
 LOAEL = lowest-observed-adverse-effect level  
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships  
 NOAEL = No Observed Adverse Effect Level  
 NOEC = No Observed Effect Concentration  
 PBT = Persistent, Bioaccumulative and Toxic substance  
 PNEC = Predicted No-Effect Concentration  
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals  
 STP = Sewage Treatment Plant  
 TLV@/TWA = Threshold limit value – time-weighted average  
 TLV@STEL = Threshold limit value – short-time exposure limit  
 VOC = Volatile Organic Compounds  
 vPvB = very Persistent and very Bioaccumulative

**16.3 Other information****Classification procedure**

Flam. Liq. 1: H224 Extremely flammable liquid and vapour. (On basis of test data)  
 Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)  
 Asp. Tox. 1: H304 May be fatal if swallowed and enters airways. (Calculation method)  
 Muta. 1B: H340 May cause genetic defects. (Calculation method)  
 Carc. 1B: H350 May cause cancer. (Calculation method)  
 STOT SE 3: H336 May cause drowsiness or dizziness. (Calculation method)  
 Aquatic Chronic 2: H411 Toxic to aquatic life with long lasting effects. (Calculation method)

**Modified position**

none

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