

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

1.1 Product identifier

Product name: Jet Fuel

Synonyms: Jet A1, Kerosine Jet A1, Kerosene Jet A1, Aviation Jet Fuel A-1(civilian), Aviation Turbine Fuel (Avtur), NATO F34, F35 (military), Regular Burning Oil (RBO), 28 Second Heating Oil

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

Identified use(s): Fuel.

Uses advised against: Follow supplier's recommendations on correct use of the product.

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Gulf Aviation
Glenbervie Business Park
Tryst House
Larbert
FK5 4RB

Telephone: 0845 270 7240

E-mail: aviation@gulfaviation.co.uk

1.4 Emergency telephone number

In case of emergency, call: 0330 123 9940 (24 hours, 7 days)

SECTION 2: Hazard Identification

2.1 Classification of the substance or mixture

2.1.1. Classification according to Regulation (EC) No. 1272/2008 (CLP)

Flam. Liq. 3; H226
Asp. Tox. 1; H304
Skin Irrit. 2; H315
STOT SE 3: H336
Aquatic Chronic 2; H411

2.1.2. Classification according to Directive 67/548/EEC & Directive 1999/45/EC

R10
Irritant; Xi; R38
Harmful; Xn; R65
R67
Dangerous for the environment; N; R51/53

2.2 Label elements

2.2.1. Label according to Regulation (EC) No. 1272/2008 (CLP)

Hazard pictogram(s):



Signal Word:

Danger.

Hazard Statement(s):

H226: Flammable liquid and vapour.
H304: May be fatal if swallowed and enters airways.
H315: Causes skin irritation.
H336: May cause drowsiness or dizziness.
H411: Toxic to aquatic life with long lasting effects.

Precautionary Statement(s):

P102: Keep out of reach of children.
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P331: Do NOT induce vomiting.
P405: Store locked up.
P501: Dispose of contents/container to approved disposal facility.

Supplemental Hazard information (EU):

None.

2.3 Other hazards

The product does not meet the criteria for PBT or vPvB substances.

SECTION 3: Composition/Information on Ingredients

3.1 Mixtures

| Chemical name | % w/w | CAS No. | EC No. | Index No. | Classification (Regulation (EC) No. 1272/2008 (CLP)) | Classification (Directive 67/548/EEC) |
|---|---------|------------|-----------|--------------|--|---|
| Kerosine (petroleum), hydrodesulfurized | ≤ 100 | 64742-81-0 | 265-184-9 | 649-423-00-8 | Flam. Liq. 3; H226 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3: H336 Aquatic Chronic 2; H411 | R10 Xi; R38 Xn; R65 R67 N; R51/53 |
| Naphthalene | 0 - 0.5 | 91-20-3 | 202-049-5 | 601-052-00-2 | Acute Tox. 4; H302 Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 | Xn; R22 Carc. Cat. 3; R40 N; R50/53 |
| Ethylbenzene | 0 - 0.5 | 100-41-4 | 202-849-4 | 601-023-00-4 | Flam. Liq. 2; H225 Acute Tox. 4; H332 Aquatic Chronic 3; H412 | F; R11 Xn; R20 R52/53 |

| Chemical name | % w/w | CAS No. | EC No. | Index No. | Classification (Regulation (EC) No. 1272/2008 (CLP)) | Classification (Directive 67/548/EEC) |
|----------------------|---------|-----------|-----------|--------------|--|---|
| Kerosine (petroleum) | 0 - 100 | 8008-20-6 | 232-366-4 | 649-404-00-4 | Flam. Liq. 3; H226 Asp. Tox. 1; H304 Skin Irrit. 2; H315 STOT SE 3; H336 Aquatic Chronic 2; H411 | R10 Xi; R38 Xn; R65 R67 N; R51/53 |

See Section 16 for full description of R phrases and H statements.

SECTION 4: First Aid Measures

4.1 Description of first aid measures

INHALATION:

Remove person to fresh air and keep comfortable for breathing. Keep warm and at rest. If symptoms persist, obtain medical attention.

SKIN CONTACT:

Remove contaminated clothing immediately. Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse.

EYE CONTACT:

Remove contact lenses if present and easy to do. Wash eyes immediately with plenty of water, making sure to rinse under eyelids. If symptoms persist, obtain medical attention.

INGESTION:

Obtain medical attention immediately. Do not induce vomiting. Do not give anything by mouth because of risk of material entering the lungs and causing lung damage. If person is drowsy or unconscious and vomiting, place on left side with head down. If possible, do not leave unattended and observe closely for adequacy of breathing.

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

Skin contact causes irritation, redness and pain. Repeated exposure may cause skin dryness or cracking. Eye contact may cause slight irritation, watering, redness and pain. Inhalation of vapours may cause drowsiness or dizziness. Ingestion may cause irritation of the mouth and digestive tract. If swallowed, aspiration into lungs may result in chemical pneumonia.

4.3 Indication of any immediate medical attention and special treatments needed:

In case of accident or if you feel unwell, seek medical advice immediately. If swallowed, patient should be monitored for signs of breathing difficulty as effects of aspiration may be delayed for up to 48 hours. If breathing is laboured, oxygen should be administered by qualified personnel.

SECTION 5: Fire-fighting Measures

5.1 Extinguishing Media

Suitable extinguishing media: Foam, CO2 or dry powder.

Unsuitable extinguishing media: Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Flammable liquid and vapour: Vapour may form explosive mixture with air. Vapour is heavier than air and may accumulate in confined spaces. Vapours may travel considerable distances to ignition sources where

they can ignite, flash back or explode. The product will float on surface water and can reignite. Containers exposed to heat may burst due to increase in pressure.

Combustion may liberate toxic fumes: Carbon monoxide, carbon dioxide, various hydrocarbons, nitrogen oxides, sulphur oxides.

5.3 Advice for fire-fighters

A self-contained breathing apparatus and suitable protective clothing should be worn in fire conditions. Move undamaged containers from fire area if this can be done safely. Keep fire exposed containers cool by spraying with water. Do not allow product or run-off to enter drains, sewers or watercourses.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Use only non-sparking tools. Use explosion-proof electrical, ventilating and lighting equipment. Caution – spillage area may be slippery.

Keep upwind. Ensure adequate ventilation. Avoid inhalation of vapours. Avoid contact with skin and eyes. Wear suitable personal protective equipment. Wear appropriate respirator when ventilation is inadequate. (See Section 8).

6.1.2 For emergency responders

Keep unnecessary personnel away. Wear suitable protective clothing (See Section 8). Contaminated clothing should be thoroughly cleaned.

6.2 Environmental precautions

Collect spillage. Do not allow to enter drains, sewers or watercourses. Spillages or uncontrolled discharges into watercourses must be alerted to the Environment Agency or other appropriate regulatory body. If spill occurs on water notify the appropriate authorities and advise shipping of any hazard.

6.3 Methods and materials for containment and cleaning up

6.3.1 For containment

Stop the leak if it is safe to do so. Contain the spillage with sand, earth or any suitable adsorbent material.

6.3.2 For cleaning up

Use sand, earth or any suitable non-combustible adsorbent material to adsorb spillages. Using non-sparking tools transfer the contaminated adsorbent material into a container for disposal. For spillages on water, remove use appropriate methods such as skimming, booms or adsorbents. For spillages onto soil, remove contaminated soil for remediation or disposal in accordance with local regulations.

Waste containers used should be plastic-lined sealable drums. Containers should be sealed before being disposed of via an authorised waste disposal contractor.

6.3.3 Other advice

None.

6.4 Reference to other sections

See Section 8 for personal protective equipment. See Section 13 for waste disposal.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical, ventilating and lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

Use only outdoors or in a well-ventilated area. Provide adequate ventilation, including local extraction, to ensure occupational exposure limits are not exceeded. Avoid breathing vapours/spray. Avoid contact with skin and eyes. Wear suitable personal protective equipment (See Section 8).

Do not eat, drink or smoke in the vicinity of the product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse. Contaminated clothing should be thoroughly cleaned or disposed of as hazardous waste.

7.2 Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep away from direct sunlight. Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Empty containers retain product residue and can be hazardous.

Keep away from oxidising agents, reducing agents.

7.3 Specific end uses(s)

Fuel.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Workplace exposure limits

Source: EH40/2005, 2nd Ed., 2011.

| Substance | CAS No. | LTEL (8 hr TWA) | | STEL (15 min) | | Comments |
|--------------|----------|-----------------|-------------------|---------------|-------------------|----------|
| | | ppm | mg/m ³ | ppm | mg/m ³ | |
| Ethylbenzene | 100-41-4 | 100 | 441 | 125 | 552 | Sk |

Sk: Can be absorbed through the skin.

Other exposure limits

Source: American Conference of Governmental Industrial Hygienists (ACGIH)

| Substance | CAS No. | LTEL (8 hr TWA) | | STEL (15 min) | | Comments |
|----------------------|-----------|-----------------|-------------------|---------------|-------------------|----------|
| | | ppm | mg/m ³ | ppm | mg/m ³ | |
| Kerosine (petroleum) | 8008-20-6 | - | 200 | - | - | Skin |

Skin: Can be absorbed through the skin.

DNELs (Workers)

| Substance | Route | Systemic effects | | Local effects | |
|--------------|------------|---------------------------|----------------------|---------------------------|----------------------|
| | | Acute/short-term exposure | Long-term exposure | Acute/short-term exposure | Long-term exposure |
| Naphthalene | Inhalation | - | 25 mg/m ³ | - | 25 mg/m ³ |
| | Dermal | - | 3.57 mg/kg bw/day | - | - |
| Ethylbenzene | Inhalation | - | 77 mg/m ³ | 293 mg/m ³ | - |
| | Dermal | - | 180 mg/kg bw/day | - | - |

PNECs

| Substance | Aqua (fresh water) | Aqua (marine water) | Aqua (intermittent releases) | Sewage Treatment Plants | Sediment (fresh water) | Sediment (marine water) | Soil | Oral |
|--------------|--------------------|---------------------|------------------------------|-------------------------|--------------------------|--------------------------|----------------------|---------------|
| Naphthalene | 0.0024 mg/L | 0.0024 mg/L | 0.002 mg/L | 2.9 mg/L | 0.0672 mg/kg sediment dw | 0.0672 mg/kg sediment dw | 0.0533 mg/kg soil dw | - |
| Ethylbenzene | 0.1 mg/L | 0.01 mg/L | 0.1 mg/L | 9.6 mg/L | 13.7 mg/kg sediment dw | 1.37 mg/kg sediment dw | 2.68 mg/kg soil dw | 20 mg/kg food |

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Provide adequate ventilation to ensure that occupational exposure limits are not exceeded. Local extraction may be required. Eye wash and quick-drench shower facilities should be available in the work area. Contaminated clothing and shoes should be thoroughly washed before reuse.

8.2.2 Personal protection

Eye protection: Goggles or safety glasses with side shields giving complete protection to eyes. (EN 166). Depending on conditions of use, close-fitting eye protection and a face shield may be necessary.

Skin protection:

Hand protection: Chemical-resistant gloves. (EN 374). Suitable glove material: nitrile or neoprene. Contact glove supplier to confirm suitable glove material, thickness and breakthrough times.

Other: Long sleeve protective clothing. Plastic apron. Rubber boots.

Respiratory protection: Where airborne levels below the exposure limits cannot be maintained, wear an air-purifying respirator (EN 140) with a Type A/P2 filter or better suitable for organic gases and vapours with a boiling point above 65°C. (EN 14387).

Thermal hazards: Wear suitable temperature resistant gloves and protective clothing if the product is heated.

8.2.3 Environmental exposure controls

Inform environmental manager of all incidents involving this product.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Data given below are typical values

| | |
|--|--|
| Appearance: | Clear, colourless to pale yellow liquid. |
| Odour: | Hydrocarbon. |
| Odour threshold: | Not available. |
| pH: | Not applicable. |
| Melting/freezing point: | Not available. |
| Initial boiling point and boiling range: | 150 – 300°C |
| Flash point: | > 38°C (Abel) |
| Evaporation rate: | Not available. |
| Flammability (solid; gas): | Not applicable. |
| Upper/lower flammability or explosive limits: | 0.6% – 7.0% (v/v in air) |
| Vapour pressure: | 0.01 – 3 kPa (20°C) |
| Vapour density: | > 1 (Air = 1) |
| Relative density: | 0.77 – 0.84 (15°C) (Water = 1) |
| Solubility(ies): | Immiscible in water. |
| Partition coefficient: n-octanol/water: | Log Kow: 2-6 |
| Auto-ignition temperature: | > 190°C |
| Decomposition temperature: | Not available. |
| Viscosity: | < 8 cSt (20°C) |
| Explosive properties: | Not explosive. Vapour may form explosive mixture in air. |
| Oxidising properties : | Not oxidising. |

9.2 Other information

None available.

SECTION 10: Stability and Reactivity

| | |
|--|--|
| 10.1 Reactivity | Reacts with oxidising agents. |
| 10.2 Chemical stability | Stable under normal conditions. |
| 10.3 Possibility of hazardous reactions | No hazardous reactions expected during normal use. |
| 10.4 Conditions to avoid | Keep away from sources of ignition, hot surfaces, direct sunlight. Prevent accumulation of vapours. Contact with incompatible materials. |
| 10.5 Incompatible materials | Oxidising agents. Reducing agents. |
| 10.6 Hazardous decomposition products | Combustion may liberate toxic fumes: Carbon monoxide, carbon dioxide, various hydrocarbons, nitrogen oxides, sulphur oxides. |

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Kerosene (petroleum):
LD₅₀ (oral/rat): > 5,000 mg/kg
LD₅₀ (dermal/rabbit): > 2,000 mg/kg
LC₅₀ (inhalation/rat/vapour): > 5.28 mg/L air (analytical), 4 h

Naphthalene:

LD₅₀ (oral/rat): 533 mg/kg
LD₅₀ (dermal/rat): > 2,500 mg/kg
LC₅₀ (inhalation/rat (male and female)/vapour): > 0.4 mg/L air (analytical), 4 h

Ethylbenzene:

LD₅₀ (oral/rat): 3,500 mg/kg
LD₅₀ (dermal/rat): 15,400 mg/kg (estimated)
RD₅₀ (inhalation/mouse/vapour): 6.2 mg/L air
LC₅₀ (inhalation/rat/vapour): 17.8 mg/L air, 4 h

Skin corrosion/irritation

Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Serious eye damage/irritation

May cause slight eye irritation.

Skin sensitisation

The product does not contain substances classified as skin sensitisers above the classification thresholds.

Respiratory sensitisation

The product does not contain substances classified as respiratory sensitisers above the classification thresholds.

Germ cell mutagenicity

The product does not contain substances classified as mutagenic above the classification thresholds.

Carcinogenicity

The product does not contain substances classified as carcinogenic above the classification thresholds.

Reproductive toxicity

The product does not contain substances classified for reproductive toxicity above the classification thresholds.

Specific Target Organ Toxicity – single exposure

May cause drowsiness or dizziness.

Specific Target Organ Toxicity – repeated exposure

Based on the available data, the classification criteria are not met.

Aspiration hazard

May be fatal if swallowed and enters airways. Risk of aspiration into lungs resulting in chemical pneumonia.

Information on likely routes of exposure

Inhalation

May cause drowsiness or dizziness.

Skin contact

Causes skin irritation. Repeated exposure may cause skin dryness or cracking.

Eye contact

May cause slight eye irritation.

Ingestion

May be fatal if swallowed and enters airways. Risk of aspiration into lungs resulting in chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion may cause irritation of the mouth and digestive tract.

Skin contact causes irritation, redness and pain. Repeated exposure may cause skin dryness or cracking. Eye contact may cause slight irritation, watering, redness and pain. Inhalation of vapours may cause drowsiness or dizziness. Ingestion may cause irritation of the mouth and digestive tract. If swallowed, aspiration into lungs may result in chemical pneumonia.

Mixture versus substance information

No data available.

Other information

None.

SECTION 12: Ecological Information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Acute toxicity studies on samples of jet fuel and kerosene streams show acute toxicity values greater than 1 mg/L, typically in the range 1-10 mg/L. Tests were carried out on water accommodated fractions (WAF) in closed systems to prevent evaporative loss.

Naphthalene:

LC₅₀ (*Pimephales promelas*): 6.08 mg/L, 96 h

LC₅₀ (*Oncorhynchus kisutch*): 2.1 mg/L, 96 h

NOEC (*Oncorhynchus kisutch*): 0.37 mg/L, 40 days

EC₅₀ (*Daphnia magna*): 2.16 mg/L, 48 h

NOEC (*Daphnia pulex*): 0.16 mg/L, 125 days

Kerosine (petroleum), hydrodesulfurised:

EL₅₀ (*Daphnia magna*): 1.4 mg/L, 48 h (WAF)

NOEL (*Daphnia magna*): 0.3 mg/L, 48 h (WAF)

NOEL (*Daphnia magna*): 0.48 mg/L, 21 days (WAF)

LOEL (*Daphnia magna*): 1.2 mg/L, 21 days (WAF)

EL₅₀ (*Daphnia magna*): 0.89 mg/L, 21 days

(reproduction)(WAF)

EL₅₀ (*Raphidocelis subcapitata*): 1-3 mg/L, 72 h (growth rate)

(WAF)

NOEL (*Raphidocelis subcapitata*): 1.0 mg/L, 72 h (growth rate)

(WAF)

Kerosines:

NOEL (*Oncorhynchus mykiss*): 0.098 mg/L, 28 day (estimated using PETROTOX computer model)

NOEL (*Tetrahymena pyriformis*): 677.9 mg/L, 72 h (estimated using PETROTOX computer model)

Solvent naphtha (petroleum), heavy arom.:

LL₅₀ (*Oncorhynchus mykiss*): 2-5 mg/L, 96h (WAF)

NOEL (*Oncorhynchus mykiss*): 2.0 mg/L, 96 h (WAF)

Ethylbenzene:

LC₅₀ (*Menidia menidia*): 5.1 mg/L, 96 h

NOEC (*Menidia menidia*): 3.3 mg/L, 96 h

EC₅₀ (*Daphnia magna*): 1.8-2.4 mg/L, 48 h

LC₅₀ (*Ceriodaphnia dubia*): 3.2 mg/L, 48 h
LC₅₀ (*Ceriodaphnia dubia*): 3.6 mg/L, 7 days

12.2 Persistence and degradability

The product components are not readily biodegradable but are considered inherently biodegradable due to degradation by microorganisms.

If released to water, the majority of kerosene will evaporate at a moderate rate but a small proportion will dissolve. Dissolved components will be either absorbed in sediments or evaporate to air. In aerobic water and sediments they will biodegrade, but in anaerobic conditions they will persist.

12.3 Bioaccumulative potential

The product components have measured or predicted Log Kow values in the range 2 – 6 or above and therefore have potential to bioaccumulate. In practice, metabolic practices may reduce bioconcentration.

12.4 Mobility in soil

The product components are immiscible in water and will float on the surface of water. Higher molecular weight components may be adsorbed onto sediment. Biodegradation is expected to be negligible in water.

Small volumes released on land will evaporate at a moderate rate, with a proportion of the product being absorbed in the upper soil layers and being subject to biodegradation. Larger volumes may penetrate into anaerobic layers in which the product will persist. The product may reach the water table on which it will form a floating layer and move along with the groundwater flow. In this case the more soluble components, such as aromatics, will cause groundwater contamination.

12.5 Results of PBT and vPvB assessment

The product does not contain substances assessed to be PBT or vPvB.

12.6 Other adverse effects

None known.

SECTION 13: Disposal Considerations

13.1 Waste treatment methods

To be disposed of as hazardous waste. Disposal should be in accordance with local, state or national legislation.

Contaminated adsorbent must be removed in sealed, plastic lined drums and disposed of via an authorised waste disposal contractor. Empty containers retain product residue and can be hazardous. Do not empty into drains; dispose of this material and its container in a safe way.

Suggested EU Waste Code: 13 07 03* (other fuels (including mixtures)). Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport Information

ADR

| | | |
|------|----------------------------------|---|
| 14.1 | UN Number | 1863 |
| 14.2 | UN Proper shipping name | FUEL, AVIATION, TURBINE ENGINE |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Yes |
| 14.6 | Special precautions for the user | Read SDS and supplier instructions on correct use of the product. |

ADN

| | | |
|------|----------------------------------|---|
| 14.1 | UN Number | 1863 |
| 14.2 | UN Proper shipping name | FUEL, AVIATION, TURBINE ENGINE |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Yes |
| 14.6 | Special precautions for the user | Read SDS and supplier instructions on correct use of the product. |

RID

| | | |
|------|----------------------------------|---|
| 14.1 | UN Number | 1863 |
| 14.2 | UN Proper shipping name | FUEL, AVIATION, TURBINE ENGINE |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Yes |
| 14.6 | Special precautions for the user | Read SDS and supplier instructions on correct use of the product. |

IATA/ICAO

| | | |
|------|----------------------------------|---|
| 14.1 | UN Number | 1863 |
| 14.2 | UN Proper shipping name | FUEL, AVIATION, TURBINE ENGINE |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Yes |
| 14.6 | Special precautions for the user | Read SDS and supplier instructions on correct use of the product. |

IMDG

| | | |
|------|--|---|
| 14.1 | UN Number | 1863 |
| 14.2 | UN Proper shipping name | FUEL, AVIATION, TURBINE ENGINE |
| 14.3 | Transport hazard class(es) | 3 |
| 14.4 | Packing group | III |
| 14.5 | Environmental hazards | Marine pollutant. |
| 14.6 | Special precautions for the user | Read SDS and supplier instructions on correct use of the product. |
| 14.7 | Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code | The product is not intended to be transported in bulk. |

SECTION 15: Regulatory Information

- 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**
This Safety Data Sheet was prepared in accordance with EC Regulation (EC) No. 1907/2006 as amended. The product has been classified in accordance with Regulation (EC) No. 1272/2008 (CLP), Directive 67/548/EEC & Directive 1999/45/EC.
- 15.2 Chemical Safety Assessment**
A chemical safety assessment has not been carried out.

SECTION 16: Other Information

Full text of relevant R-phrases and/or H-statements:

| | |
|--|---|
| Hazard Statement(s): | H225: Highly flammable liquid and vapour. H226: Flammable liquid and vapour. H304: May be fatal if swallowed and enters airways. H315: Causes skin irritation. H332: Harmful if inhaled. H336: May cause drowsiness or dizziness. H351: Suspected of causing cancer. H400: Very toxic to aquatic life. H410: Very toxic to aquatic life with long lasting effects. H411: Toxic to aquatic life with long lasting effects. H412: Harmful to aquatic life with long lasting effects. |
| Supplemental Hazard information (EU): | Not applicable. |
| Risk phrase(s): | R10: Flammable. R11: Highly flammable. R20: Harmful by inhalation. R22: Harmful if swallowed. R38: Irritating to skin. R40: Limited evidence of a carcinogenic effect. R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. 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. |

Abbreviations:

| | |
|--------------------|---|
| CAS: | Chemical Abstracts Service; |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| EC ₅₀ : | Effective Concentration 50% |
| EL ₅₀ : | Effective Loading rate 50% |
| LC ₅₀ : | Lethal Concentration 50% |
| LD ₅₀ : | Lethal Dose 50% |
| LL ₅₀ : | Lethal Loading rate 50% |
| LOEL: | Lowest Observed Effect Level |
| NOEL: | No Observed Effect Level |
| PBT: | Persistent, Bioaccumulative and Toxic. |
| RD ₅₀ : | Concentration associated with a 50% reduction in respiratory rate |
| RMM: | Risk Management Measures |
| UVCB: | Substance of Unknown or Variable composition, Complex reaction products or Biological materials |
| vPvB: | Very Persistent and Very Bioaccumulative |
| WAF: | Water Accommodated Fraction |

References:

Supplier's Safety Data Sheets
ECHA disseminated REACH dossiers
ECHA Classification and Labelling Inventory
Approved Classification and Labelling Guide (Sixth edition)
The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009



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Regulation (EC) No. 1272/2008 of the European Parliament and of the council.

Disclaimer:

This safety data sheet contains important information to ensure the safe storage, handling and use of this product, it does not however constitute an assessment of workplace risks.

Users are advised to refer to relevant legislation, approved codes of practice and guidance available from the Health & Safety Executive (website: <http://www.hse.gov.uk>) and to the IP Codes of Practice available from the Energy Institute (website: <http://www.energyinst.org.uk>)

Further information:

The above information is based on our current knowledge of the product. The purpose of this data sheet is to describe the product in terms of its safety and environmental requirements. It is the user's responsibility to satisfy themselves as to the application of this information and/or recommendations for their own use.

Version history:

| | |
|--|------------|
| Version: | 2.1 |
| Issue date: | 10/09/2014 |
| Previous Version: | 2.0 |
| Issue date of previous version: | 19/11/2013 |
| Sections changed from previous version: | 1 |