

**MATERIAL SAFETY DATA SHEET (MSDS)**  
**CLASS 3 – FLAMMABLE LIQUIDS**

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**1. CHEMICAL PRODUCT IDENTIFICATION**

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**1.1 PRODUCT IDENTIFIER:**

This data sheet is about substances and mixtures that are characterized as flammable liquids which are included in Class 3, according UNITED NATIONS Committee of Experts on the Transport of Dangerous Goods (UN). Flammable liquids are liquids, or mixtures of liquids, or liquids containing solids in solution or suspension (such as paints, varnishes, lacquers, etc., but not including substances which, on account of their other dangerous characteristics, have been included in other classes) which give off a flammable vapour at or below 60°C closed-cup test (corresponding to 65.6°C open-cup test), normally referred to as the "flashpoint". This also includes:

1. Liquids offered for transport at temperatures at or above their flashpoint; and
2. Substances transported or offered for transport at elevated temperatures in a liquid state, which give off a flammable vapour at temperatures equal to or below the maximum transport temperature.

However, the provisions of this Code need not apply to such liquids with a flashpoint of more than 35°C which do not sustain combustion. Liquids are considered to be unable to sustain combustion for the purposes of the Code if:

1. they have passed the suitable combustibility test (see the Sustained Combustibility Test prescribed in part III, 32.5.2 of the United Nations Manual of Tests and Criteria; or
2. the fire point according to ISO 2592:1973 is greater than 100°C; or
3. they are water-miscible solutions with a water content of more than 90%, by mass.

The following products have been recorded in the present MSDS: Gasoline (substance), Unleaded Gasoline, Unleaded Gasoline LRP, Kerosene (sweetened, heating, illuminative), Aviation Fuel, Fuel Oil No3, Vacuum Gasoil, Methanol, Diesel fuel.

**1.2 RELEVANT IDENTIFIED USES:**

- **Worker:** Manufacture, distribution, formulation and repacking, use as a fuel, in the petroleum industry. - **Professional:** Use as a fuel. - **Consumer:** Use as a fuel

**Emergency telephone number:**



National Emergency Centre: 166  
National Poison Centre: (+30) 2107793777

**2. HAZARDS IDENTIFICATION**

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**2.1 CLASSIFICATION OF HAZARDS**

**2.1.1 According to GHS (EC Regulation 1272/2008)**



GHS02

- **Flammable Liquids (Flam. Liquid):** H224 or H225 or H226

**H224:** Extremely flammable liquid and vapour, **H225:** Very flammable liquid and vapour **H226:** Flammable liquid and vapour

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GHS08

- **Aspiration toxicity (Asp. Tox.):** H304

**H304:** May be fatal if swallowed and enters airways

- **Mutagenicity (Muta.):** H340

**H340:** May cause genetic defects

- **Carcinogenicity (Carc.):** H350, H351

**H350:** May cause cancer, **H351:** Suspected of causing cancer

- **Reproductive toxicity (Repr.):** H361

**H361:** Suspected of damaging fertility or the unborn child

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GHS07

or



GHS06

- **Skin Irritation (Skin Irrit.):** H311, H315

**H311:** Toxic in contact with skin, **H315:** Causes skin irritation

- **Acute toxicity (Acute Tox.):** H301, H331, H332

**H301:** Toxic if swallowed, **H331:** Toxic if inhaled, **H332:** Harmful if inhaled

- **Specific target organ toxicity - single exposure (STOT SE):** H336, H370, H373

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**H336:** May cause drowsiness or dizziness, **H370:** Cause damage to organs, **H373:** May cause damage to organs through prolonged or repeated exposure

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GHS09

- **Hazardous to the aquatic environment (Aquatic Chronic):** H410 or H411

**H410:** Very toxic to aquatic life with long lasting effects, **H411:** Toxic to aquatic life with long lasting effects

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### 2.1.2 According to DSD-DPD (Directive 67/548/EEC)



- **Flammable (F):** R10 or R11 or R12

**R10:** flammable, **R11:** highly flammable, **R12:** extremely flammable

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- **Toxic (T):** R23/24/25, R39/23/24/25

**R23/24/25:** Toxic by inhalation, in contact with skin and if swallowed, **R39/23/24/25:** Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed

- **Carcinogenic (Carc. Cat.):** R40, R45

**R40:** limited evidence of a carcinogenic effect, **R45:** may cause cancer

- **Mutagenic (Muta. Cat.):** R46

**R46:** may cause heritable genetic damage

- **Toxic for reproduction (Repr. Cat.):** R62, R63

**R62:** possible risk of impaired fertility, **R63:** possible risk of harm to the unborn child

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- **Harmful (Xn) :** R20, R65, R67

**R20:** harmful by inhalation, **R65:** harmful: may cause lung damage if swallowed, **R67:** vapours may cause drowsiness and dizziness

- **Irritant (Xi):** R38

**R38:** irritating to skin

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- **Dangerous for the environment (N):** R51/53

**R51/53:** toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

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### 2.2 LABELLING:

- According to GHS (EC Regulation 1272/2008)

Signal word: **D a n g e r**

Hazard pictograms (at least a subset): GHS02, GHS08, GHS09, GHS06 or GHS07

Hazard statements (H) (at least a subset): H224, H225, H226. H311, H315. H331, H332. H301, H304. H361. H340. H350, H351. H370, H373. H410, H411 (For full text of H-statements: see SECTION 2.1)

Precautionary statements (P) (at least a subset):

**P201:** Obtain special instructions before use.

**P102:** Keep out of reach of children.

**P210:** Keep away from heat/sparks/open flames/.../hot surfaces. ... No smoking.

**P280:** Wear protective gloves/protective clothing/eye protection/face protection. **P281:** Use personal protective equipment as required.

**P301+P310+P330:** IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. Rinse the mouth.

**P307+P311:** IF EXPOSED: Call a POISON CENTER or doctor/physician.

**P303+P361+P353+P352:** IF CONTACTED WITH THE SKIN (or hair): Remove / Take off immediately all contaminated clothing. Rinse skin with water / shower. Wash with plenty of soap and water.

**P304+P340:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

**P403+P233:** Store in a well-ventilated place. Keep container tightly closed.

**P501:** Dispose of contents/container according to local legislation.

**P260:** Do not breathe dust/fume/gas/mist/vapours/spray.

**P270:** Do not eat, drink or smoke when the product is used.

**P271:** It must be used only in open or well-ventilated area.

**P273:** Avoid release to the environment.  
**P263:** Avoid contact during pregnancy/lactation.  
**P264:** Wash thoroughly after handling.  
**P405:** Store locked up.  
**P240:** Grounding/ Equipotential connection of container and receiving equipment.  
**P241:** Take precautionary measures against static discharges.  
**P243:** Have to take precautionary measures against static discharges.  
**P370+P378.1:** In case of fire: Use extinguishing powder, foam or CO2 to extinguish.  
(It is not valid for *METHANOL*) **P331:** Do NOT induce vomiting

**Supplemental Hazard Information (EU)** may be:

**EUH066:** Repeated exposure may cause skin dryness or cracking.

- [According to DSD-DPD \(Directive 67/548/EEC\)](#)

**Symbol(s) and indication(s) of danger** (at least a subset):

<b>F</b>	Flammable Liquid
<b>T</b>	Toxic
<b>Xn</b>	Harmful
<b>Xi</b>	Irritant
<b>N</b>	Dangerous for the environment
<b>Carc. Cat.</b>	Carcinogenic
<b>Muta. Cat.</b>	Mutagenic
<b>Repr. Cat.</b>	Toxic for reproduction

**Risk Phrases (R)** (at least a subset): R10, R11, R12. R20, R65, R67. R38. R23/24/25, R39/23/24/25. R40, R45. R46. R62, R63. R51/53 (For full text of R-phrases: see SECTION 2.1)

**Safety phrases (S)** (at least a subset):

**S1/2:** keep out of the reach of children

**S23:** do not breathe gas/fumes/vapour/spray

**S24:** avoid contact with skin

**S29:** do not empty into drains

**S36/37:** wear suitable protective clothing and gloves

**S43:** in case of fire, take all the appropriate personal protection measures

**S45:** in case of accident or if you feel unwell, seek medical advice immediately

**S51:** use only in well-ventilated areas

**S53:** avoid exposure - obtain special instructions before use

**S61:** avoid release to the environment. refer to special instructions/safety data sheets

**S7:** Keep container tightly closed.

**S16:** Away from sources of ignition - No smoking.

(It is not valid for *METHANOL*) **S62:** if swallowed, do not induce vomiting: seek medical advice immediately and show this container or label

**Particular hazards to man and environment:**

If classified according to its carcinogenicity, mutagenicity or toxic to reproduction, its uses (excepting the fuel) should be limited to professional users.

(Ref. to *KEROSENE*): When the product is sold to the general public (consumers) for use as lamp oil and grill lighters, then the package must contain the following statements, in accordance with European Regulation R276/2012 - REACH Annex XVII: - Keep lights away from children. – A sip of Kerosene or pulling the wick with the mouth may lead to fatal lung damage.

### 2.3 OTHER HAZARDS:

**PBT and vPvB assessment:** **PBT:** The substance does not fulfill the criteria for being persistent, bioaccumulative and toxic.

**vPvB:** The substance does not fulfill the criteria for being very persistent and very bioaccumulative.

## 3. COMPOSITION / INFORMATION ON INGREDIENTS

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### 3.1 MIXTURE:

Composition is referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

**Hazardous ingredients may be:** Propane, Hydrocarbons, C3-4-rich, petroleum distillate, Ethyl mercaptan, 1,3-butadiene

## 4. FIRST AID MEASURES

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#### **4.1 DESCRIPTION OF FIRST AID MEASURES:**

**WARNING BEFORE PREVENTION:** Before attempting to rescue casualties, isolate area from all potential sources of ignition including disconnecting electrical supply. Ensure adequate ventilation and check that a safe, breathable atmosphere is present before entry into confined spaces. Leaks make slippery surfaces. The area where the casualty is transferred must be well ventilated. Drench contaminated clothing with water before removing to avoid risk of sparks from static electricity. Wash carefully the affected skin area, with copious amount of running water and neutral soap. First Aid must be supplied by specially trained personnel. (Subject to applicability): Hydrogen sulfide (H<sub>2</sub>S) can accumulate in the headspace of the storage tanks of the product and reach potentially hazardous concentrations. Do not use kerosene, gasoline or solvents.

**FOLLOWING INHALATION:** If the casualty experiences difficulty breathing move to fresh air and keep him calm and in a position comfortable for breathing.

**A. If the casualty is conscious:** Place the casualty in recovery position with legs slightly raised. Loose tight clothing, collar, cover with a blanket. Obtain medical advice.

**B. If the victim is unconscious or conscious but breathes with difficulty:** Seek medical advice immediately. Place the casualty in the recovery position with legs slightly raised. Loose tight clothing, collar and cover with a blanket. Supply oxygen, check respiration and pulse. If necessary, administer cardio-pulmonary resuscitation.

**C. If the casualty does not breathe:** Give artificial Respiration. Obtain medical advice immediately. Place the casualty in the recovery position with legs slightly raised. Loose tight clothing, collar and cover with a blanket. When the respiration recurs, provide oxygen. If necessary, administer cardio-pulmonary resuscitation.

(Subject to applicability): Seek medical attention if the casualty shows decreased consciousness or if symptoms do not subside. (Subject to applicability): If there is any suspicion of inhalation of H<sub>2</sub>S or CO, rescuers must wear breathing apparatus, belt and safety rope, and follow rescue procedures. Remove casualty to fresh air as quickly as possible. Immediately begin artificial respiration if breathing has ceased. Preventive oxygen supply can help. Obtain medical advice for further treatment.

**FOLLOWING SKIN CONTACT:** Remove the casualty from the area of the incident. Remove the contaminated clothing of the casualty. Wash thoroughly the affected skin area with soap and copious amount of water. If the skin is simply dry, apply carefully lanolin ointment. If skin has blisters and seems irritated (chemical burn), wash cautiously with sterilized water. While using equipment of high pressure there is possibility injection of the substance to be observed. If injuries occur due to high pressure, seek immediate professional medical care. Do not wait until symptoms appear. For mild second degree burns, cool the burn. Hold the burned area under cold running water for at least five minutes, or until the pain subsides. Hypothermia should be avoided. Do not use solvents, gasoline or kerosene. Obtain medical advice immediately - Treatment as in thermal burns. If the irritation persists, obtain medical advice immediately.

**FOLLOWING EYE CONTACT:** Remove the casualty from the area of the incident. Wash eyes with copious amount of water for at least 15 min keeping the eyelids open. Remove contact lenses, if there are and it is easy to be removed. Continue to rinse. Do not administer eye drops or other liquid without medical approval. Obtain medical advice – Refer to the specialist if the pain or irritation persists after washing. Do not administer eye drops or other liquid without medical approval.

**FOLLOWING INGESTION:** Remove the casualty to a quiet, cool and well ventilated environment. Ingestion of this material may cause disturbance of consciousness and loss of coordination. In case of ingestion, always assume that it has been aspirated. The casualty should be transported immediately to the hospital. Do not wait until symptoms appear. Do not induce vomiting (hazard of chemical pneumonitis). Do not give anything to drink. Wash out mouth with water without swallowing. (Ref. to *METHANOL*): Be forced to vomiting by administration beaker with warm, salt water or with the fingers. Then sponsor of one tablespoon of mineral oil (Nujol) and then a tablespoon dissolved sodium sulfate or magnesium in glass of water. In case of exhaustion provide a cup of strong coffee or tea. Wash out mouth with water.

**NOTES FOR THE DOCTOR:** A special examination is required in order to evaluate the extent of the damage.

(Ref. to *FUEL OIL No.3*): Do not use local anaesthetics or wetted tepid covers.

**Inhalation:** The voluntary inhalation of vapours, mist or fumes of light petroleum distillates may cause addiction, permanent damage to the brain and peripheral nervous system while sudden death may be caused.

(Subject to applicability): If prolonged exposure to high concentrations of hydrogen sulfide, the victim should receive treatment according to the protocol for poisoning from hydrogen sulfide. (Subject to applicability): Prolonged exposure to high concentrations of hydrogen sulfide may lead to a later chemical pneumonitis and / or pneumonic oedema. Thus, a 48-hour hospitalization is recommended for possible pneumonic oedema symptoms. Persons with pre-existing respiratory problems may be more sensitive to the effects of exposure.

**Ingestion/Aspiration:** If aspiration (alleged or diagnosed), the casualty should be monitored for at least 48-72 hours. Aspiration has no initial symptoms and can occur without any vomiting. In most cases, there are no obvious symptoms in the early stages. In a few cases aspiration can be diagnosed in some events, such as hydrocarbon odor during breathing, vomiting, or coughing or/and choking symptoms. If a gastric lavage is necessary, this must be carried out only after endotracheal tubage due to hazard of aspiration into lungs and cause of pulmonary edema.

(Ref. to *KEROSENE, AVIATION FUEL*): As antidote, a spoon of paraffin oil followed by a glass of water in which a spoon of magnesium sulfate or sodium sulfate has been added, in order to reduce the absorption rate through the gastrointestinal route.

**Skin Contact:** The launch of the product at high pressure may cause contact of product with skin, even under protective equipment (gloves, suits). The affected area should be examined and a diagnosis should be made on the distance from which

## Κεφάλαιο Α: Γενικευμένα Δελτία Δεδομένων Ασφάλειας (Generalized SDS)

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the product was launched. In severe cases of skin contact, surgery and special treatment may be required in order to reduce the damage to tissues and neural function. Treatment involves surgical decompression and debridement.

### 4.2 MOST IMPORTANT SYMPTOMS AND EFFECT, BOTH ACUTE AND DELAYED:

**Inhalation:** Headache, nausea, vomiting. **Ingestion:** Few or no symptoms expected. Symptoms such as feeling sick (nausea) or diarrhea may occur. **Skin Contact:** Redness of the skin, irritation of the skin

### 4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

Not urgent action. Symptomatic treatment

## 5. FIRE-FIGHTING MEASURES

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### 5.1 EXTINGUISHING MEDIA:

During fire fighting, keep safety distances. The emergency exits must be left free. Major fires are handled by specially trained personnel.

**Suitable extinguishing media:** Large scale fires are handled by specially trained personnel, using foam. Small scale fires are handled using foam, dry powder, carbon dioxide or sand.

Water fog (by specially trained personnel). Inert gases (according to the law)

**Unsuitable extinguishing media:** Do not use water! Simultaneous use of foam and water on the same surface is to be avoided. Use of water only for cooling of fire exposed tanks and vessels.

### 5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

**Specific hazards arising from the chemical:** The substance floats in water and can be ignited on the water surface. The liquid can release vapors at temperatures lower than that of the environment, which can form flammable mixtures. Containers, which are exposed to high temperatures (due to fire), should be cooled with water in order to avoid the rise of internal pressure, which may lead to a rupture of the container. Overheated surfaces may induce ignition, even without spark or naked flame. Vapors may accumulate and spread along long distances resulting in ignition.

**Hazardous combustion products:** Incomplete combustion is likely to generate complex mixture of airborne solid and liquid particulates, gases including carbon monoxide and other unidentified organic and inorganic compounds. If there are sulfur compounds in appreciable amounts, hydrogen sulfide (H<sub>2</sub>S) and sulfur oxides (SO<sub>x</sub>) can be produced during burning.

### 5.3 ADVICE FOR FIRE-FIGHTERS:

**Level of protection advised:** In case of a large fire or in confined or poorly ventilated spaces wear full fire persistent protective clothing and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode in addition to standard fire fighting gear.

**Specific fire-fighting methods:** Not mentioned

## 6. ACCIDENTAL RELEASE MEASURES

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The recommended measures are based on the most likely leaks scenarios. The conditions such as wind, atmospheric temperature, wind direction and speed surge / current can significantly influence the selection of appropriate actions. Local regulations may also determine or limit actions which must be taken. Formation risk of explosive mixture of air and vapor of the product. Make sure what is provided by the legislation to be applied according to the safety of workers who may be exposed in danger from explosive atmospheres, the management and the storage of flammable products. Avoid contact with the product. Except for the case of small extent ponding, the feasibility of any actions must be assessed and indicated, if possible, by appropriately trained and competent person who is responsible for managing the emergency.

(Subject to applicability): If H<sub>2</sub>S is presented in the headspace of tanks, indoors or in the residues of the product in the tank waste and waste waters, a special risk assessment must be held for inhalation while unintentional releases must be carried in order to identify required controls per case.

(Subject to applicability): The concentration of H<sub>2</sub>S in the headspace of the tanks may reach dangerous values, particularly in case of prolonged storage. This situation is about these activities which involve direct exposure to the vapours in the tank.

(Subject to applicability): Accidental leaks of limited product quantities, especially in the air where vapors usually diffuse quickly, are dynamic situations, which are expected to limit the exposure to hazardous concentrations. Since H<sub>2</sub>S has a density greater than air, a possible exception might be related to the accumulation of dangerous concentrations at specific points, such as ditches, cavities or closed spaces. In all these circumstances, however, appropriate actions should be evaluated with as appropriate.

(Subject to applicability): In cases where presence of dangerous quantities of H<sub>2</sub>S leak around the product's leak is proven or suspected, additional or special effects may be warranted, including restricted access, the use of special protective equipment, procedures and staff training.

### 6.1 PERSONAL PRECAUTION, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

**6.1.1 For non-emergency personnel:** - Keep away from sources of ignition. - Ensure there is adequate ventilation. - Isolate the leak at the source and remove all possible ignition sources (e.g. electricity, sparks, fires, flares), if safe to do so. - Avoid direct contact with the material released. - Stay on the windward side. - Use of suitable protective clothing and breathing apparatus during handling of the released quantity (see Personal protective equipment, section 8). - Do not use flammable materials, such as shavings, filings or cloth pieces. - In case of large spillages, alert the neighborhood estimated to be in greater danger for fire or explosion depending on the wind direction. - Evacuate the area from the non-involved personnel and alert the local authorities. - Set alert emergency personnel. - Shut off electricity supply if possible. - If the product is mixed with soil, water or vegetation, inform the local authorities. - Transfer the contaminated materials to suitable sealed vessels, until their disposal. - The access to drains, ditches and aquatic receivers must be avoided. - In case of release into the sea, alert the coast guard, the nearest ports, the local authorities as well as the ship-owner company regarding the event. If necessary, inform the relevant authorities in accordance with all applicable regulations.

**6.1.2 For emergency responders: Personal Protective Equipment: Small Release:** Normal antistatic work clothes are mostly appropriate. **Large Release:** Protective clothing covering the entire body from antistatic material, persistent to chemicals. The gloves have good resistance to chemicals, especially in aromatic hydrocarbons. The gloves, which are made of polyvinyl alcohol (PVA), are not waterproof and not suitable for use in an emergency. Work helmet. Use non-slip shoes or safety boots. Goggles and / or face shield if liquid jet or eye contact is possible or predictable.

Gas mask covering half or full-face with organic vapours filter/s (and where applicable for H<sub>2</sub>S) or self-contained breathing apparatus (SCBA) depending on the extent of the leak and the anticipated exposure quantity. Self-contained breathing apparatus (SCBA) should be used only if it is not possible to estimate the whole situation or there is lack of oxygen.

### 6.2 ENVIRONMENTAL PRECAUTIONS AND METHODS FOR CONTAINMENT AND CLEANING UP:

Should not be released into the environment. Stop or reduce leak at its source, if safe to do so.

**Land spillage:** - Absorb the spilled product using sand or another inert material, and wash with water. - Absorbance of stagnant product with suitable nonflammable materials. - The electrical non- explosion-proof type equipment must stop operating. - When you are inside buildings or indoors, make sure there is adequate ventilation. - In case of leak or stagnation without fire, use water spray for the dispersion of the released vapors and the protection of the personnel handling the incident. Do not use direct jets. **ATTENTION!** The stagnant quantities render the surfaces slippery. - Collect released product with appropriate instruments. Drag collected products and other contaminated material into suitable containers for recovery or safe disposal. - In case of soil contamination, remove contaminated soil and elaborate it according to local regulations. - The recommended measures are based on the most likely exposure scenarios. However, local conditions (wind, atmospheric temperature, wind direction and speed surge / current) can significantly influence the selection of appropriate actions. For this reason, you should consult the local experts when necessary. - Local regulations may also prescribe or limit the action has to be taken.

**Spillages in water or at sea:** - The release into the sea from ships is handled according to the Annex of the Protocol of 1978 of the International Convention of 1973 «Prevention of marine pollution from ships» (MARPOL 73/78) and its amendments. - Prevent entry of the product into sewers, rivers or other water bodies. - In case of small spills in closed waters (e.g. ports), the released quantity is confined using floating barrages and is removed by skimming or suitable absorbing materials. - Large spills in open water should be confined using floating barrages or other mechanical means and be recovered, so that if the danger of fire/explosion has been avoided, the product should not be collected, unless it is necessary. Otherwise, check the spread of the spill and let the product evaporate naturally. - The use of dispersants by a specialist is recommended and, if necessary, is approved by local authorities. - Collect waste in suitable containers or containers for recovery or safe disposal.

### 6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP

**6.3.1 For containment:** Refer to Section 6.2 for environmental precautions and methods for containments and cleaning up.

**6.3.2 For cleaning up:** Refer to Section 6.2 for environmental precautions and methods for containments and cleaning up.

**6.3.3 Other information:** Not Available

## 7. HANDLING AND STORAGE

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### 7.1 PRECAUTIONS FOR SAFE HANDLING:

- (Subject to applicability): If classified as carcinogenic, mutagenic or toxic for reproduction (CMR), specific instructions must be given before use. - (Subject to applicability): A specific assessment of risks during inhalation should be made due to the presence of hydrogen sulfide in the headspace of tanks, the closed spaces, the residues of the product in the tank waste and waste water while unintended releases must be made in order to identify controls required in each case. - Risk of explosive mixtures of vapour and air. Ensure that all regulations concerning explosive atmospheres and handling and storage facilities of flammable products are applied. - Use and storage only outdoors or in a well ventilated area.

#### 7.1.1 Protective measures:

**Information on safe handling and measures to prevent fire/explosion:** - Contact with skin or eyes must be avoided. - Production and distribution are carried out through closed systems in order to minimize product evaporation that could lead to hazards to health and environment. - Avoid using the product as a cleaning agent or a solvent. - Keep containers tightly closed, properly labeled and out of the reach of children. - The vapour is heavier than air. Caution should be exercised in accumulation in pits and confined spaces. - Do not use compressed air for filling, discharging or handling. - Do not smoke. Do not inhale vapours. - Wear appropriate protective equipment. - The grounding of the storage areas, transport and sampling systems is

necessary in order to avoid the formation of a spark due to accumulation of electrostatic charges. - Only use tools that do not create sparks. - Use the proper flameproof equipment of electrical installation / ventilation / lighting. - Keep away from heat / sparks / open flames / hot surfaces. - The precautionary control for the detection of leaks is necessary. - Installation of general/local ventilation systems whenever there is the possibility of high concentrations of product mist/vapors and when modifications for their maintenance at acceptable levels are not possible. - In case of release of high concentration product vapors, air measurements are required in order to ensure that the maximum exposure limits are not exceeded. - Ensure adequate ventilation and avoid stagnation. - Empty tanks or containers may contain residue liquid or vapor. - Not to do maintenance work without the stringent security measures. - Planning, construction and maintenance of the storage areas must comply with the International Directives and the relevant Legislation.

**Measures to protect the environment:** - Avoid release to the environment. - Required in situ remediation of contaminated water. - The storage facilities must be designed with sufficient embankment in case of spillage or leakage.

**7.1.2 Advice on general occupational hygiene:** - Ensure that all hygiene measures are applied. - It should not be allowed to accumulate contaminated materials in the workplace and should never be kept in pockets. - Keep away from food and drinks. - Do not eat, drink or smoke during use. - Wash your hands thoroughly after handling. - Change contaminated clothing at the end of the shift.

### 7.2 CONDITIONS FOR SAFE STORAGE:

**Technical measures and storage conditions:** - Storage in specially designed vessels according to the relevant Legislation in well ventilated areas, away from oxidizing agents, heat sources or other sources that may induce ignition and be protected from physical damage. - Cleaning, inspection and maintenance of the internal structure of storage tanks should only be performed by properly trained and equipped personnel as defined by national, local and corporate regulations. - Before entering storage tanks and starting work indoors, check the concentration of atmospheric oxygen and the degree of flammability. - When there is the possibility of generating high concentration vapors the installation of a local ventilation system or a vapor dilution system is necessary. - When there is the possibility of release of high concentration vapors (as in case of high temperatures), suitable measures for the minimization of the exposure must be taken (adequate ventilation, use of respiratory protection). - (Subject to applicability): Harmful hydrogen sulfide concentrations may be generated and accumulated in the upper section of the storage tanks and in the transportation equipment. Suitable measures (staying at the opposite direction of the wind, adequate ventilation, use of breathing apparatus, continuous air measurements) are necessary in order to minimize the exposure. - The grounding of the storage area, of the transportation and sampling systems is necessary.

- (Ref. to *FUEL OIL No.3*): While planning storage installations, it is important that heating systems are placed below the outflow level so as to prevent them from being uncovered from the product during their operation under normal conditions and avoid explosion/fire due to the contact with heated surfaces. - The upper section of storage tanks is regarded as potentially flammable due to the possibility of formation of light hydrocarbons vapors.

- (Ref. to *VGO*): Keep the storage and handling temperature at the ambient temperature in order to ensure a sufficient quality of the product, and minimize the fume generation.

**IF THE SUBSTANCE IS STORED IN CONTAINERS:** - Must only be kept in original packaging or in a suitable container for this type of product. - Keep containers tightly closed, with appropriate labeling. - Protect from heat and direct sunlight. - The vapours of light hydrocarbons can accumulate in the free space of the containers. It may cause a risk of ignition / explosion. Open late in order to be able to control possible pressure release. - Empty containers may contain flammable product residues. - Welding, drilling, cutting or incineration of empty containers should not be done unless they are cleaned properly. - It is necessary to label properly and keep storage vessels closed and out of the reach of children.

**Packaging materials:** - Suitable material for containers: steel, stainless steel. - Inappropriate material for containers and pipes: Some synthetic materials (check compatibility).

**Requirements for storage rooms and vessels:** - The layout of the store, the design of the tanks, the equipment and the operating procedures must be done in accordance with the relevant European, national or local legislation. - The storage areas must be equipped with special fire fighting systems and Emergency plans according to the relevant Legislation (KYA 5697/590/2000. ΦΕΚ 405B/29-3-2000). - The storage facilities must be designed with sufficient embankment in case of spillage or leakage.

**Storage class:** 3

### 7.3. SPECIFIC END USE(S):

Refer to the Exposure Scenarios attached to current Safety Data Sheet.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### 8.1 CONTROL PARAMETERS:

**8.1.1 Occupational Exposure/Biological Limit Values:** Occupational Exposure/Biological Limit Values are referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

**8.1.2 Information on currently recommended monitoring procedures:** National Institute of Occupational Safety and Health (NIOSH). BS EN 1127-1:2011. BS EN 60079-0:2009. BS EN 14042:2003. HSE: Method MDHS 84

**8.1.3 Applicable occupational exposure limit values and/or biological limit values for air contaminants (if formed when using the substance/mixture as intended):** Applicable occupational exposure limit values and/or biological limit values for air contaminants are referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

**8.1.4 DNEL / PNEC values:** DNEL/PNEC values are referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)



### 8.2 EXPOSURE CONTROLS:

- Occupational exposure: Mainly due to mishandling during production, distribution, inspection, maintenance, during sampling and sample analysis, as well as during loading, transportation and vehicle supply. - Public indirect exposure: Due to inhalation of the product vapors (mainly near emission sources), due to water pollution (after a prolonged leak) and accumulation to the food chain.

- Avoid swallowing, eye and skin contact, as well as inhalation of gasoline vapors. - The most important route of exposure is differentiated regarding the volatility of the product. For products with high volatility, the most important route of exposure is considered to be the inhalation while for products with low volatility, the most important route of exposure is considered to be the prolonged skin contact.

#### **8.2.1 Appropriate engineering controls / Technical measures to prevent exposure:**

**Appropriate engineering controls:** - Cleaning, inspection and maintenance of the storage tanks require specific procedures and precautions, such as the issue of work permits, draining product from the tanks (gas freeing), use of safety belts and personal breathing apparatus. - Exposure can be minimized by the application of suitable control measures depending on the case, such as establishment of procedures, installation of ventilation systems, use of personal protective equipment. - It is important to follow the rules of hygiene. - Avoid ingestion, contact with skin and eyes and inhalation of vapors. - Avoid use as a cleaning agent or solvent. - Store and manage your substance in a closed system using isothermal storage tanks and piping with insulation and temperature control (trace heated lines). - Possibility of hydrogen sulfide accumulation in closed storage areas. During their opening, the use of personal breathing apparatus and personal hydrogen sulfide detectors are required.

- (Ref. To Kerosene): Exposure to kerosene is limited outside the tank filling and maintenance.

**Organisational measures to prevent exposure:** - Before a worker is placed in a job with a potential for exposure to the substance, a licensed health care professional should evaluate and document the worker's baseline health status. - Biological control of the staff exposed to gasoline must include determination of benzene in blood and of phenol in urine. - Risk assessment of work related to the product. - Measurements are required to be carried out for the quantitative determination of the occupational exposure, and the hazard assessment (according to article 4 of ΠΔ 338/2001). - Maximum exposure limits correspond to the loading operations in terminal installations. - The design of working methods and organizational measures must comply with article 5 of ΠΔ 338/2001. - Strict compliance with the personal hygiene rules and health inspection are necessary according to the article 10 of ΠΔ 338/2001. - Standby personnel must always be outside the tank with adequate personal protective equipment. - Entrance is not permitted in confined spaces, when hydrogen sulfide concentration is >10 ppm, oxygen available < 20% v/v and gas > 1% of Lower Explosive Limit. **ATTENTION!** Empty vessels or tanks may contain liquid residue rich in hydrogen sulfide. Do not allow entrance if corresponding measurements and strict safety measures have not taken place.

#### **8.2.2 Personal protection equipment:**

##### **Respiratory protection:**



Use of full face masks with hydrocarbon filters in case of small leakages. During cleaning and inspection of the equipment, as well as in incidents of great release, use self-contained breathing apparatus and full suit (impermeable uniform, boots, gloves).

- CSN EN 136 - Respiratory protective devices - Full face masks - Requirements, testing, marking. - DIN EN 137 Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking. BS EN 141:2000 - Respiratory protective devices. Gas filters and combined filters. Requirements, testing, marking

##### **Eye protection:**



Use of goggles or face shields is necessary for the protection of the eyes. **ATTENTION!** Installation of eye washers at workplaces.

- CSN EN 166 - Personal eye-protection – Specifications. - CR13464 - Guide to selection, use and maintenance of occupational eye and face protectors.

##### **Hand protection:**



In case of skin contact, the use of neoprene impermeable gloves is necessary.

- DIN EN 374-1 Protective gloves against chemicals and micro-organisms. - DIN EN 388 Protective gloves against mechanical risks. - DIN EN 407 Protective gloves against thermal risks (heat and/or fire). - DIN EN 420 Protective gloves - General requirements and test methods (includes Amendment A1:2009). Choose the glove material taking into consideration the penetration times, rates of diffusion and the degradation. Check if the gloves are in good condition before each use.

**Material of gloves:** The selection of suitable gloves does not only depend on the material, but also the additional quality characteristics and varies from manufacturer to manufacturer. Because the product is a preparation which consists of several ingredients, the robustness of the glove material cannot be verified. Gloves should be checked before the use.

**Penetration time of glove material:** The exact penetration time is determined from the protective glove manufacturer and must be always followed.

##### **Skin and body (including hands) protection:**





In case of skin contact, the use of suitable protective clothing and safety footwear is necessary. Use waterproof clothing. In the loading / unloading: Safety helmet with protection of the face and neck. **ATTENTION!** Installation of showers at workplaces. Contaminated protective clothing must be thoroughly washed after each use. Footwear impregnated with product must be disposed of.

- DIN EN 340 Protective clothing - General requirements. - BS EN 465:1995 - Protective clothing. Protection against liquid chemicals. Performance requirements for chemical protective clothing with spray-tight connections between different parts of the clothing (type 4 equipment). - BS EN 466-1:1995 - Protective clothing. Protection against liquid chemicals. Performance requirements for chemical protective clothing with liquid-tight connections between different parts of the clothing (type 3 equipment). - BS EN 467:1995 - Protective clothing. Protection against liquid chemicals. Performance requirements for garments providing protection to parts of the body. CSN EN 397 - Industrial safety helmets DIN EN 137 - Respiratory protective devices - Self-contained open-circuit compressed air breathing apparatus with full face mask - Requirements, testing, marking. - EN 469 - Protective clothing for fire fighting. - BS EN 1486:2007 - Protective clothing for fire fighters. Test methods and requirements for reflective clothing for specialized fire-fighting.

**8.2.3 Environmental exposure controls:** - During the processes of production, distribution and waste treatment. - During transportation and storage of the product, emissions may occur due to losses or leak incidents. - Significant control of the losses towards the environment is carried out by means of the upgraded product specifications and the technical measures for the limitation of emissions of directives 94/63/EEC, 96/61/EEC and 2001/80/EEC. - The most important route of exposure is differentiated regarding the volatility of the product. For products / components with high volatility, the most important route of exposure is considered to be the air while for products / components with low volatility, the most important route of exposure is considered to be the aquatic receivers and soil. - Large scale releases may pollute soil for long periods, because the absorption process delays the biodegradation of hydrocarbons. - Losses may also be due to HC, CO, NO<sub>x</sub> releases, via vehicle exhausts. - (Ref. to VGO):The bioaccumulation of its ingredients (included that of polynuclear aromatic hydrocarbons) is likely in vegetables, meat and milk due to the high value of K<sub>ow</sub>. For invertebrates, the likeliness is restricted, but it is increased in superior organisms (fish).

- The training of personnel is necessary and essential in order to know the potential risks during production and storage, safety measures, ways of reducing toxic and hazardous waste and required actions in case of accident. - The contents of the containers must be emptied completely and the containers must be disposed empty. - In case of a leak, you should follow the emergency plan in order environmental impact to be restricted. Consult the authorities. - Take appropriate measures for each facility, as applicable. - Required an on-site wastewater treatment. - The local guidelines on emission limits should be applied.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### 9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Physical and chemical properties are referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

## 10. STABILITY AND REACTIVITY

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### 10.1 REACTIVITY:

- Can be oxidized in the presence of air. - Not in autoreactive mixtures. None exothermic decomposition when heated. No react with water.

### 10.2 CHEMICAL STABILITY:

(May be) Stable product. Under standard conditions, it is a stable product and it does not cause hazardous chemical reactions.

### 10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

(May be) - Exothermic reactions are not made. - Hazardous reactions are not known.

### 10.4 CONDITIONS TO AVOID:

(May be) Heat sources, bare flames, extreme heat, sparks, static electricity and other ignition sources.

### 10.5 INCOMPATIBLE MATERIALS:

(May be) Strong acids, halogens, alkalines, strong oxidizing agents (liquid chlorine, concentrated oxygen), alkali metals, flammable materials.

### 10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

(May be) There are not decomposed at ambient temperature. During thermal decomposition: Carbon monoxide, carbon dioxide, nitrogen oxides, sulfur dioxide, incombustible hydrocarbons, hydrogen sulfide, polycyclic aromatic hydrocarbons, particles, irritant emissions. The ash from combustion may contain heavy metals oxides. React violently presence of oxidizing agents.

## 11. TOXICOLOGICAL INFORMATION

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### 11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Toxicological information is referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

**Acute toxicity:** Acute toxicity means those adverse effects occurring following oral or dermal administration of a single dose of a substance or a mixture, or multiple doses given within 24 hours, or an inhalation exposure of 4 hours. Usually, acute toxicity of CLASS 3 products is not considerably high.

**Skin corrosion/irritation:** Repeated or prolonged contact induces irritation, followed by peeling off, chemical burn and possibly dermatitis due to de-fattening. Products with high storage temperature may appear hazard of burns. In severe cases, the repeated exposure is likely to induce permanent dermatopathy that can evolve to skin cancer due to the presence of polycyclic aromatic hydrocarbons.

**Serious eye damage /irritation:** Eye contact with the liquid or exposure to high concentrations vapor/mist may induce temporary irritation and discomfort. Eye contact with liquid droplets may induce temporary acute pain and flush. Prolonged exposure to high vapor concentrations may induce conjunctivitis.

**Respiratory or skin sensitisation:** - Inhalation of vapors may cause irritation of the upper respiratory system and cough. - Exposure to high concentrations of mist/vapors even for a few minutes may cause dizziness, headache, nausea, vertigo. - Prolonged inhalation of very high concentrations may cause cardiac arrhythmia, fainting, narcosis even death from suffocation due to paralysis of the Central Nervous System (CNS) arising from the narcotic and asphyxiating effect of the vapors that tend to displace air, reducing the oxygen concentration. - Prolonged and repeated exposure to high concentrations may induce damage to blood producing system and to the peripheral nervous system. - When temperature rises, hydrogen sulfide is released, and is extremely toxic. Hydrogen sulfide concentrations exceeding the established limits cause headache, dizziness, nausea, eye irritation and of the upper respiratory tract. In hydrogen sulfide concentrations exceeding 500 ppm loss of consciousness is observed, while above 1000 ppm instantaneous death occurs. - Prolonged hydrogen sulfide inhalation familiarizes the sense of smell and results in the increased poisoning hazard in cases of increase of concentration.

**Germ cell mutagenicity:** - No explicit indication of mutagenic effect has been established. - The findings indicate that substances VGO / HGO / Products distillate fuels, which contain ingredients derived from cracking, are potentially genotoxic. The result depends on the amount of components derived from cracking, the type of cracking and other factors. The results of the available studies do not match.

**Carcinogenicity:** - Some products have low carcinogenicity potential and some other significant carcinogenicity. Carcinogenicity refers to cases of repeated skin irritation. - It is concluded by existing studies that some polycyclic aromatic hydrocarbons have a carcinogenic effect to animals, which however has not been confirmed for humans.

**Toxicity to reproduction:** The available data are insufficient to determine the effect of the product on human reproduction.

**STOT - single exposure:** - Exposure Route: Inhalation. May cause dizziness or drowsiness. - Organs affected: Central nervous system.

**STOT - repeated exposure:** It is referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

**Aspiration hazard:** - Classified as dangerous causing aspiration. - Adsorbing of liquid into the lungs directly or after vomiting, causes damage to the lung tissues with possible hazard of chemical pneumonitis (in serious cases this may be fatal). - It is slowly absorbed from the digestive system and induces irritation to the mouth, the throat and the gastrointestinal system. - In case of swallowing of large quantities (due to mishandling), disorders to the gastrointestinal system are induced, followed by spasms and coma. - Vomiting may be induced, however this should be avoided.

(Ref. to *METHANOL*): Be forced to vomiting by administration beaker with warm, salt water or with the fingers.

## 12. ECOLOGICAL INFORMATION

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Ecological information is referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

### 12.1 TOXICITY:

**12.1.1 Aquatic toxicity:** - In case of large extent pollution of aquatic receiver, mortality to aquatic organisms and long-term adverse effects to the aquatic environment may be induced. For lighter components, evaporation is the most probable process because of their higher vapor pressure at ambient temperature. - In air, the hydrocarbon vapors react rapidly with hydroxylic radicals with half-life time less than a day. - The water-soluble fraction containing mainly polyaromatic hydrocarbons and polar compounds is the fraction that causes direct toxicity to the aquatic life. - The loss of the components with lower molecular weight, due to evaporation and dissolution, increases the density of the remaining floating fraction, which after having floated on water during a period will be immersed as heavy pellets. During this process, mortality to aquatic life occurs. - The photo oxidation of liquid hydrocarbons on the surface of receiving waters is considered to be the main process for the polycyclic aromatic hydrocarbons.

**12.1.2 Sediment toxicity:** - The substance is complex (UVCB); therefore usual tests on sediment toxicity are not applicable.

- (Ref. to VGO): The majority of VGO ingredients are absorbed as sediment.

**12.1.3 Terrestrial Toxicity:** The substance is complex (UVCB); therefore usual tests on terrestrial toxicity are not applicable.

**For products / components with high volatility:** - In case of soil pollution with large quantities of product, depending on the morphology of the area, certain hydrocarbons (such as alkanes) will be transported via vapour diffusion to the atmosphere. This process is slower in soil than in aquatic environment, due to the slower characteristics of gasoline diffusion through soil. Many of the gasoline components (aliphatic and aromatic) are rapidly biodegraded and the main process of gasoline removal from soil is the biodegradation. - In case of soil pollution, alkanes as more hydrophobic, are absorbed in the soil and have small

mobility. However, a significant percentage, mainly of lower molecular weight aromatics (such as benzene, toluene, xylene) will penetrate into anaerobic soil layers, and it may enter the aquifer, where its biodegradation will take place. If there is no available oxygen, this process will be limited. **For products / components with low volatility:** - In case of soil pollution with small quantities of product, a percentage will be evaporated in air at an intermediate rate, while the remaining amount tends to be absorbed by the upper aerobic soil layers, and its components tend to be biodegraded in the presence of oxygen. - In case of soil pollution with large quantities of product, a significant percentage will penetrate into anaerobic soil layers, where biodegradation rates are negligible. This quantity may penetrate into the underground aquatic receivers, so the most soluble (aromatic) components will be dissolved in water. Due to the groundwater flow, there is the possibility of polluting the drinkable water. It is unlikely that these components will be maintained for long periods so as to generate a hazard for the public health. **Toxicity to birds:** - According to Regulation REACH (Annex X) testing is not required because of plenty of tests for mammals. - It is possible to observe an immediate toxic effect to marine organisms (birds and marine mammals), while the quantity that reaches the coasts cause significant pollution. Restoration requires several weeks.

### 12.2 PERSISTENCE AND DEGRADABILITY:

**12.2.1 Persistence Assessment:** The evaluation of some hydrocarbon structures shows that some of these structures qualify as persistent (P) or very persistent (vP).

**12.2.2 Stability: Hydrolysis:** The chemical components of the substance consist of carbon and hydrogen and are not hydrolyzed. Consequently there is very little possibility of hydrolysis of the product and the decomposition process does not contribute to its removal from the environment. **Phototransformation in air:** The routine tests for calculating the half-life cannot be applied as it is complex substance. **Phototransformation in water and soil:** There is no chance of phototransduction in water or soil. Therefore, removal of product from the environment through this decomposition process is not expected.

**12.2.3 Biodegradation:** - The substance is complex (UVCB); therefore usual tests on biodegradation are not applicable. - The biodegradation in water is considered to be a secondary process.

### 12.3 BIOACCUMULATIVE POTENTIAL:

- The substance is UVCB (substance unknown or variable composition, complex reaction products), therefore usual tests on simple substances are not applicable. - Regarding bioaccumulation, lower molecular weight ingredients are decomposed relatively rapidly under aerobic conditions, while the higher molecular weight hydrocarbons (especially the polycyclic aromatic ones) are biodegraded at a slow rate. - The evaluation of some hydrocarbon structures shows that none of these structures are qualified as highly bioaccumulative (vB), but few are qualified as bioaccumulative (B). - However product components with characteristic hydrocarbon structures are potentially considered bioaccumulative

### 12.4 MOBILITY IN SOIL:

- Floats on water. If entered the ground, one/more of the components will present mobility in soil and can contaminate groundwater. In large quantities it can penetrate the soil and contaminate the aquifer.

### 12.5 RESULTS OF PBT AND vPvB ASSESSMENT:

Anthracene is not contained at a concentration greater than 0.1%. - The substance does not fulfill the PBT/vPvB criteria.

## 13. DISPOSAL CONSIDERATIONS

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### 13.1 WASTE TREATMENT METHODS:

**13.1.1 Product / Packaging disposal:** If the product must be disposed of/eliminated, this will be conducted according to the relative Legislation and the approval of the local authorities. **ATTENTION!** Ash produced from combustion may be characterized as a hazardous waste.

**13.1.2 Waste treatment - relevant information:** - Greatly contaminated materials must be incinerated. - Do not dispose industrial sludge to natural soils. Follow local legislations. - The waste code is chosen based on the use of the product. If a different use, the user must select the appropriate code waste.

**13.1.3 Sewage disposal - relevant information:** It must not be disposed of to sewers.

**13.1.4 Other disposal recommendations:** - The waste producer is responsible for the classification and disposal methods according to applicable legislation. - Do not contaminate the soil, water or environment with used packaging of the product.

### 13.2 ADDITIONAL INFORMATION:

Do not pollute the soil, water or environment with used packaging of the product.

## 14. TRANSPORT INFORMATION

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### Pictogram(s):



## Κεφάλαιο Α: Γενικευμένα Δελτία Δεδομένων Ασφάλειας (Generalized SDS)

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**LAND TRANSPORT (Road/Rail)** according to ADR/RID 2003, ΠΔ 104/99 and its amendments (ΦΕΚ 509B/2000 and 1232B/2001), Directives 94/55/EEC and 96/49/EEC and their amendments.

**Transport Hazard Class(es):** 3

**Packing group:** Medium danger (II) or Low danger (III)

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### INLAND WATERWAY TRANSPORT (AND(R))

**Transport Hazard Class(es):** 3

**Packing group:**

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**MARINE TRANSPORT** according to IMDG – IMO Code 2002 and ΠΔ 405/96

**Transport Hazard Class(es):** 3, 3.1, 3.3

**Packing group:** Medium danger (II) or Low danger (III)

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### AIR TRANSPORT (ICAO-TI/IATA-DRG)

**Transport Hazard Class(es):** 3, 3.1, 3.3

**Packing group:** Medium danger (II) or Low danger (III)

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More details such as environmental hazards (UN Model Regulations/2009), limited quantities, packaging and IBCs, portable tanks and bulk containers, special precautions for users about transport information are referred to [ANNEX-ADDITIONAL INFORMATION.xlsx](#)

## 15. REGULATORY INFORMATION

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### 15.1 SAFETY, HEALTH AND ENVIRONMENTAL REGULATIONS/LEGISLATION SPECIFIC FOR THE SUBSTANCE OR MIXTURE:

**National Regulations:** ΑΣΣ 47/ΦΕΚ 431B/95, Υ.Α. 265/2002/2002 (ΦΕΚ 1214/B/19.9.2002), Υ.Α. 195/2002/2002 (ΦΕΚ 907/B/17.7.2002), Υ.Α. 378/94/1994 (ΦΕΚ 705/B/20.9.1994), Decision 508/91/1991 (ΦΕΚ 886/B/30.10.1991).

**EU Regulations:** REGULATION (EC) 1907/2006, REGULATION (EC) No 1272/2008

### 15.2 CHEMICAL SAFETY ASSESSMENT:

A Chemical Safety Assessment has been carried out.

## 16. OTHER INFORMATION

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### KEY LITERATURE REFERENCES AND SOURCE OF DATA:

UN Recommendations on the Transport of Dangerous Goods - Model Regulations Revised edition, 2011. CONCAWE.

### RELEVANT R-PHRASES AND/OR H-STATEMENTS MAY BE:

**R14/15:** Reacts violently with water, liberating extremely flammable gases

**R22:** Harmful if swallowed

**R48/21:** Danger of serious damage to health by prolonged exposure in contact with skin

**R34:** Causes burns

**R37:** Irritating to respiratory system

**R36/37/38:** Irritating to eyes, respiratory system and skin

**R50/53:** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**R52/53:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment

**R66:** Repeated exposure may cause skin dryness or cracking

**TRAINING ADVICE:** The information of the present generalized Material Safety Data Sheet can be used for training purposes.