

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1. Product identifier:**
XBEE Enzyme Fuel Technology
- 1.2. Relevant identified uses of the mixture and uses advised against:**
Low odour solvent base, fuel additive for private and professional use.
Identified use: improving and cleaning fuels.
- 1.3. Details of the supplier of the safety data sheet:**

Information about the distributor/importer:
XBEE SA
Dumontshaff
3841 Schifflange
Luxemburg
Tel.: +352 691 6689 00
- 1.3.1.** Responsible person: XBEE SA
E-mail: info@xbee.com
- 1.4. Emergency telephone number:**
The emergency number to be used in Benelux is the Belgian Poison Center number: +352 8002-5500. Call this number for contact details of all Benelux anti-poison centres. To find out the emergency number for your country, you are kindly requested to contact the relevant local authorities and to visit the ECHA (European Chemicals Agency) website:
<http://echa.europa.eu/en/web/guest/support/helpdesks/national-helpdesks/list-of-national-helpdesks>

SECTION 2: HAZARDS IDENTIFICATION

- 2.1. Classification of the mixture:**
Classification according to Regulation 1272/2008/EC (CLP):
Aspiration hazard, Hazard Category 1 – H304
- Warning H statements:**
H304 – May be fatal if swallowed and enters airways.
- 2.2. Label elements:**
Components that define the hazards: Distillates (petroleum), hydrotreated light; Kerosene – unspecified
GHS08



DANGER

Warning H statements:
H304 – May be fatal if swallowed and enters airways.

Precautionary P statements:
P260 – Do not breathe dust/fume/gas/mist/vapours/spray.
P262 – Do not get in eyes, on skin, or on clothing.
P301 + P310 – IF SWALLOWED: Immediately call a POISON CENTER or doctor immediately.
P331 – Do NOT induce vomiting.
P501 – Dispose of this product and its container at a dangerous or special waste centre that is in conformity with local, national and/or international regulations.

2.3. Other hazards:

This product is flammable and combustible if heated.
Possibility of irritation to skin and eyes. Possibility of nausea, headaches, irritation and coma if vapour is inhaled in significant quantities.
Possibility of dangerous effects on aquatic organisms.
Results of PBT and vPvB assessment: no data available.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:

Chemical characterization: this product is a mixture of pure kerosene and natural enzyme concentrate.

| Description | CAS number | EC number / ECHA list number | REACH registration number | Conc. (%) | Classification according to Regulation 1272/2008/EC (CLP) | | |
|---|------------|------------------------------|---------------------------|-----------|---|-----------------|----------|
| | | | | | Hazard pictogram | Hazard category | H phrase |
| Distillates (petroleum), hydrotreated light; Kerosene – unspecified Index number: 649-422-00-2 | 64742-47-8 | 265-149-8 | - | > 99 | GHS08 Danger | Asp. Tox. 1 | H304 |
| Organic compounds* | - | - | - | < 1 | - | not classified | - |

*: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No. 1272/2008.

For the full text of H phrases: see section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

General information:

In the event of serious or ongoing distress call a doctor or request emergency medical aid.

Protecting first-aiders:

Consider the protection of first-aiders during a life-saving operation. Use personal protective equipment. See section 8.

INGESTION:

Measures:

- Do not induce vomiting.
- Should vomiting occur, keep patients head below hip level to prevent aspiration into respiratory airways.
- Call a POISON CENTER or a doctor immediately.
- Do not give anything by mouth to an unconscious person.

INHALATION:

Measures:

- In the event of vapours or mists being released, leave the polluted area immediately.
- In case of breathing difficulties provide artificial respiration.
- Obtain medical help.

SKIN CONTACT:

Measures:

- Remove soiled clothing and wash affected body parts with soap or gentle detergent and large amounts of water for at least 15 minutes.
- Consult a doctor if any irritation appears.

EYE CONTACT:

Measures:

- In case of contact with eyes carefully rinse with water holding eyelids wide open (for at least 15 minutes).
- Consult an ophthalmologist if there is any irritation.

- 4.2. **Most important symptoms and effects, both acute and delayed:**
Possibility of eye or skin irritation. Possibility of nausea, headache, irritation and coma in the event of significant inhalation of vapours. Inhaling the substance may bring on a pulmonary oedema and serious pneumonia could develop quickly.
- 4.3. **Indication of any immediate medical attention and special treatment needed:**
No special treatment needed; treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

- 5.1. **Extinguishing media:**
- 5.1.1. **Suitable extinguishing media:**
CO₂, dry chemical powder, alcohol foam. Use water spray to cool containers.
- 5.1.2. **Unsuitable extinguishing media:**
Do not use water jet.
- 5.2. **Special hazards arising from the substance or mixture:**
Exposure to heat can lead to the release of dangerous fumes as well as soot and carbon oxides. Product is moderately flammable. Vapour/air mixtures can be explosive. Vapours are heavier than air and can catch fire at a great distance from the emitting source.
- 5.3. **Advice for firefighters:**
Cool subjects exposed to fire with water spray. Prevent fire-fighting discharge from entering drains, watercourses and ground water. Do not enter or linger in danger areas without chemically protective clothing (protective clothing, gloves, boots) or without independent positive pressure breathing apparatus. Do not allow extinguishing water to enter drains or watercourses.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. **Personal precautions, protective equipment and emergency procedures:**
- 6.1.1. **For non-emergency personnel:**
Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident. Eliminate the sources of ignition. Do not touch or walk in the spilled product. See section 8 for personal protective equipment.
- 6.1.2. **For emergency responders:**
Take the personnel to a safe area. Ensure adequate ventilation. Eliminate the sources of ignition. Stop the leak if you can do so without danger. Avoid inhaling vapours and avoid contact with skin and eyes. Ventilate the premises to an adequate degree. Protect the personnel taking action with respiratory masks, clothing, gloves and safety footwear. Take all adequate measures to protect first-aiders against risks of fire, explosion and inhalation, particularly through the use of respiratory protection. Ensure strict hygiene rules are adopted for those exposed to contact with the product. Use personal protective equipment.
- 6.2. **Environmental precautions:**
Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately. Do not throw water used for cleaning into the drain. Do not throw out the recovered product into the environment.
- 6.3. **Methods and material for containment and cleaning up:**
Contain the product. Gather in the spilled product using a non-flammable inert absorbent. Place residue in barrels for removal in conformity with regulations in force. Wash the contaminated zone using copious amounts of water.
- 6.4. **Reference to other sections:**
For further and detailed information see section 7, 8 and 13.

SECTION 7: HANDLING AND STORAGE

- 7.1. **Precautions for safe handling:**
Observe conventional hygiene precautions. Keep food and drink away from product, including animal food and drink. Avoid contact with skin, eyes and clothing. Avoid breathing in vapours, spray, mist and gases. Use the required personal protective equipment. Do not eat, drink, or smoke when using this product. Do not place cloths that have been soaked in the product in clothes pockets. Change contaminated clothing at the end of the working day. Wash hands before taking a break and immediately after handling the product. Remove contaminated clothing and footwear.
- Technical measures:**
Provide appropriate general ventilation. Recommendations for danger-free handling: use personal protective equipment. Gloves must be periodically inspected and replaced if worn through, split or contaminated. For information on personal protective equipment, see section 8.
- Precautions against fire and explosion:**
Handle product away from possible sources of fire (naked flames, sparks, electric arcs etc) and heat (warm manifolds or partitions).

7.2. Conditions for safe storage, including any incompatibilities:

Technical measures and storage condition:

Store the containers tightly closed in a well-ventilated and cool area away from any sources of ignition.

Incompatible materials: see section 10.5. Keep incompatible products away from the product.

Packaging material: steel, PVC. Only use containers, seals and piping that is resistant to hydrocarbons.

7.3. Specific end use(s):

No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Occupational exposure limit values (Commission Directive 2000/39/EC of 8 June 2000):

The components of the mixture are not regulated with exposure limit values.

| DNEL values | | Oral exposure | | Dermal exposure | | Inhalative exposure | |
|-------------|----------|--------------------|---------------------|--------------------|---------------------|---------------------|---------------------|
| | | Short term (acute) | Long term (chronic) | Short term (acute) | Long term (chronic) | Short term (acute) | Long term (chronic) |
| Consumer | Local | no data | no data | no data | no data | no data | no data |
| | Systemic | no data | no data | no data | no data | no data | no data |
| Worker | Local | no data | no data | no data | no data | no data | no data |
| | Systemic | no data | no data | no data | no data | no data | no data |

| PNEC values | | |
|----------------------------------|---------|------------|
| Compartment | Value | Note(s) |
| Freshwater | no data | no note(s) |
| Seawater | no data | no note(s) |
| Freshwater sediment | no data | no note(s) |
| Seawater sediment | no data | no note(s) |
| Wastewater Treatment Plant (STP) | no data | no note(s) |
| Intermittent release | no data | no note(s) |
| Secondary poisoning | no data | no note(s) |
| Soil | no data | no note(s) |

8.2. Exposure controls:

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. Appropriate engineering controls:

In pursuance of work is proper foresight needed to avoid leaking onto clothes and floors and to avoid contact with eyes and skin. Apply technical measures necessary to adhere to the exposure limits at work. Provide adequate ventilation (local exhaust ventilation, good general ventilation). Consider providing eye wash fountains in direct proximity to workplaces. Avoid product entering drains, watercourses and soil.

8.2.2. Individual protection measures, such as personal protective equipment:

All common protective measures should be set up and implemented prior to recourse to personal protective equipment. Use personal protective equipment that is clean and in good working order. Remove all soiled clothing. Do not eat, drink or smoke at workplaces. Clean hands after all handling.

1. **Eye/face protection:** Wear protective glasses (safety glasses with side protection according to EN166 standard).
2. **Skin protection:**
 - a. **Hand protection:** Use gloves that are resistant and waterproof against chemical products (in conformity with EN 374 standards).
 - b. **Other:** Provide protective clothing and boots to avoid contact with this product.
3. **Respiratory protection:** If mists or vapours are formed: use breathing apparatus fitted with a cartridge for organic vapours combined with a particle pre-filter (combined A/P filter type that conforms to EN141/EN143 standards).
4. **Thermal hazards:** no thermal hazards known.

8.2.3. Environmental exposure controls:

Avoid product entering drains, watercourses and soil.

The requirements detailed in section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

| Parameter | Value / Test method / Remarks |
|---|-------------------------------------|
| 1. Appearance: | Transparent liquid |
| 2. Odour: | colourless |
| 3. Odour threshold: | light solvent, fuel |
| 4. pH: | not applicable |
| 5. Melting point/freezing point: | not determined |
| 6. Initial boiling point and boiling range: | 177 °C (760 mmHg) |
| 7. Flash point: | 82 °C (ASTM D 93/A) |
| 8. Evaporation rate: | not determined |
| 9. Flammability (solid, gas): | no data* |
| 10. Upper/lower flammability or explosive limits: | lower flammability limit: 0,9 % vol |
| 11. Vapour pressure: | no data* |
| 12. Vapour density: | no data* |
| 13. Relative density: | no data* |
| 14. Solubility(ies): | hydrosolubility: insoluble |
| 15. Partition coefficient: n-octanol/water: | no data* |
| 16. Auto-ignition temperature: | not determined |
| 17. Decomposition temperature: | no data* |
| 18. Viscosity: | not determined |
| 19. Explosive properties: | Vapour/air mixes may be explosive. |
| 20. Oxidizing properties: | no data* |

9.2. Other information:

Density at 15 °C: 0,795 g/cm³

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

No reactivity known.

10.2. Chemical stability:

Product is stable during normal handling and storage conditions.

10.3. Possibility of hazardous reactions:

No hazardous reactions known.

10.4. Conditions to avoid:

Avoid flames, all kind of heat and ignition sources. Avoid contact with incompatible materials.

10.5. Incompatible materials:

Strong oxidising agents. Materials not advised: some plastic materials.

10.6. Hazardous decomposition products:

The heat decomposition of the mixture may result in the triggering of dangerous products such as carbon monoxide and carbon dioxide and different organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

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

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/irritation: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation: Based on available data, the classification criteria are not met.

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

STOT-single exposure: Based on available data, the classification criteria are not met.

STOT-repeated exposure: Based on available data, the classification criteria are not met.

Aspiration hazard: May be fatal if swallowed and enters airways.

11.1.1. Summaries of the information derived from the test conducted:

No data available.

11.1.2. Relevant toxicological properties:

No data available.

11.1.3. Information on likely routes of exposure:

→ Inhalation:

Acute exposure: Irritation of nose and respiratory airways, vertigo, poor coordination, headache, loss of appetite, nausea, confusion, suppressed nervous system, coma, brain area affected, chemical pneumonia, pulmonary oedema, haemorrhage, death.

Chronic exposure: Possibility of visual disturbances.

→ Contact with skin:

Acute exposure: Possibility of irritation, effects on the central nervous system.

Chronic exposure: Possibility of irritation and drying, sensitivity or dermatitis in the event of repeated contact.

→ Contact with eyes:

Acute exposure: Possibility of irritation, tearing, reddening, swelling of eyes.

Chronic exposure: Possibility of irritation, conjunctivitis.

→ Ingestion:

Acute exposure: Irritation of pharynx, oesophagus, stomach and intestines with mucus oedema and ulceration, diarrhoea, cardiac arrest, suppression of central nervous system; chemical pneumonia in the event of vomiting and aspiration into lungs.

11.1.4. Symptoms related to the physical, chemical and toxicological characteristics:

Contact with eyes: Possibility of eye irritation.

Contact with skin: Possibility of skin irritation.

Inhalation: Possibility of nausea, headache, coma in the event of significant vapour inhalation.

Ingestion: Inhalation may trigger pulmonary oedema and serious pneumonia can quickly develop.

11.1.5. Delayed and immediate effects as well as chronic effects from short and long-term exposure:

May be fatal if swallowed and enters airways.

11.1.6. Interactive effects:

No data available.

11.1.7. Absence of specific data:

No information.

11.1.8. Other information:

No data available.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity:

No study has been made at this time on this mixture. The main component of this mixture is not directly toxic for aquatic organisms.

12.2. Persistence and degradability:

The main component of the mixture is degradable. End-containing entity: air.

12.3. Bioaccumulation potential:

No data available.

12.4. Mobility in soil:

No data available.

12.5. Results of PBT and vPvB assessment:

No data available.

12.6. Other adverse effects:

Long-term harmful effects for aquatic organisms through the reduction of surface gas exchanges (the mix floats on the water surface). Not to be disposed of onto natural water or onto the ground.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods:

Disposal according to the local regulations.

13.1.1. Information regarding the disposal of the product:

Dispose of in accordance with applicable regulations to dangerous waste. Dispose of contents/container in an approved incineration facility.

List of Waste Code:

No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.

- 13.1.2. **Information regarding the disposal of the packaging:**
Empty containers should be taken to an approved site for waste treatment and subsequent disposal or recycling. The ground and surface and subterranean water is not to be contaminated.
- 13.1.3. **Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.
- 13.1.4. **Sewage disposal:**
No data available.
- 13.1.5. **Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

ADR/RID; ADN; IMDG; IATA: not dangerous good in sense of the transport regulations.

- 14.1. **UN Number:**
No UN Number.
- 14.2. **UN proper shipping name:**
No proper shipping name.
- 14.3. **Transport hazard class(es):**
No transport hazard classes.
- 14.4. **Packaging group:**
No packaging group.
- 14.5. **Environmental hazards:**
No relevant information available.
- 14.6. **Special precautions for user:**
No relevant information available.
- 14.7. **Transport in bulk according to Annex II of MARPOL and the IBC Code:**
Not applicable.

SECTION 15: REGULATORY INFORMATION

- 15.1. **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
- 15.2. **Chemical safety assessment:** no information.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet:

The safety data sheet has been revised according to Regulation (EU) 2015/830 (section 1-16).

This Safety Data Sheet supersedes all previous versions according to Annex II of Regulation (EC) No 1907/2006.

Literature references / data sources:

Safety data sheet issued by the manufacturer (31.05.2018, version: 5).

Methods used for the classification according to Regulation 1272/2008/EC:

| Classification | Method |
|---|-----------------------------|
| Aspiration hazard, Hazard Category 1 – H304 | Based on calculation method |

Relevant H-Phrases (number and full text) of Section 2 and 3:

H304 – May be fatal if swallowed and enters airways.

Training advice:

Plan for staff instruction related to risks and precautions to take in the event of an accident.

Full text of the abbreviations in the safety data sheet:

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road.

ATE: Acute Toxicity Estimate.

AOX: Adsorbable organic halides.

BCF: Bioconcentration factor.

BOD: Biological Oxygen Demand.

CAS number: Chemical Abstract Service number.

CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

CMR effects: Carcinogenic, mutagenic, reprotoxic effects.

COD: Chemical Oxygen Demand.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived-No-Effect-Level.

ECHA: European Chemical Agency.

EC: European Community.

EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).

EEC: European Economic Community.

EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EN: European Norm.

EU: European Union.

EWC: European Waste Catalogue (replaced by LoW – see below).

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

IATA: International Air Transport Association.

ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.

IMDG: International Maritime Dangerous Goods.

IMSBC: International Maritime Solid Bulk Cargoes.

IUCLID: International Uniform Chemical Information Database.

IUPAC: International Union of Pure and Applied Chemistry.

Kow: n-Octanol - Water Partition Coefficient.

LC50: Lethal concentration resulting in 50 % mortality.

LD50: Lethal dose resulting in 50 % mortality (median lethal dose).

LoW: List of Waste.

LOEC: Lowest Observed Effect Concentration.

LOEL: Lowest Observed Effect Level.

NOEC: No Observed Effect Concentration.

NOEL: No Observed Effect Level.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

OECD: Organization for Economic Cooperation and Development.

OSHA: Occupational Safety and Health Administration.

PBT: Persistent, Bioaccumulative and Toxic.

PNEC: Predicted No Effect Concentration.

QSAR: Quantitative Structure Activity Relationship.

REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.

SCBA: Self Contained Breathing Apparatus.

SDS: Safety Data Sheet.

STOT: Specific Target Organ Toxicity.

SVHC: Substances of Very High Concern.

UN: United Nations.

UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products and Biological Materials.

VOC: Volatile Organic Compound.

vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.

The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their circumstances and purposes and assume all risk associated with the use of this product.

It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:
MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding the explanation of
the safety data sheet:
+36 70 335 8480; info@msds-europe.com



Safety data sheet was reviewed by:
Intertek
MSDS Conformity Review dpt.

Report number: RAPS19001831 dated on July 29, 2019
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