

FLEX FUEL E85

MATERIAL SAFETY DATA SHEET

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

1.1 Product identifier

Flex Fuel E85

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

Relevant identified uses: Flex Fuel setup. Uses advised against not determined.

1.3 Details of the supplier of the safety data sheet

Supplier	Fast Fuels 365 Pty Ltd
Address	2 Hillclimb Rd , Westmead , Durban, South Africa ,3610
Telephone number	+27 31 787 0061
E-mail address	info@fastfuels.co.za

1.4 Emergency telephone number

+27 83 93 83 777

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, Eye Irrit. 2 H319, STOT SE 3 H336, Repr. 2 H361d, STOT RE 2 H373, Aquatic Chronic 2 H411

Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure through inhalation. Toxic to aquatic life with long lasting effects.

2.2 Label elements

Hazard pictograms and signal words



DANGER

Substances which influenced classification

naphtha (petroleum), isopropyl alcohol

Hazard statements

H225	Highly flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure through inhalation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER /doctor.
P331	Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P308+P313	If exposed or concerned: Get medical advice/attention.

2.3 Other hazards

Components of this mixture meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Not applicable.

3.2 Mixtures

naphtha (petroleum), light alkylate

Range of percentages: 1-16%

CAS number: 67-63-0

EC number: 265-068 -8

Index number: 649-276-00-X
Registration number: 01-2119457610-43-XXXX
Classification*: Flam. Liq. 2 H225, Asp. Tox. 1 H304, Skin Irrit. 2 H315, STOT SE 3 H336, Aquatic Chronic 2 H411
*taking into account the note P, the product contains less than 95.20 w/w % of alkalite and less than 0,1% n- hexane.

Substance with a specific value at the Community level of the permissible concentration in the work environment.

Ethanol

Range of percentages: 1-15% CAS number: 64-17-5
EC number: 200-578-6
Index number: 603-002-00-5
Registration number: 01-2119457610-43-XXXX
Classification: Flam. Liq. 2 H225

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Skin contact: Remove contaminated clothing, immediately wash skin with plenty of water. If there was no irritation, it is advisable to use soap. If irritation occurs, consult a doctor.

Eye contact: Consult a doctor if disturbing symptoms appear. Protect non- irritated eye, remove contact lenses. Rinse the irritated eye thoroughly with water for 10-15 minutes. Avoid strong stream of water - the risk of cornea damage.

Ingestion: Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Call a doctor immediately and show container or label.

Inhalation: Consult a doctor immediately. Remove victim to fresh air, keep warm and at rest. Symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 24 hours.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms may be delayed.

Eye contact: Redness, mild irritation, tearing.

Skin contact: In the case of frequent or prolonged contact may cause redness, dryness, inflammation, irritation. Inhalation: sore throat and respiratory tract, headache and dizziness. In serious cases, after 24 hours there is inflammation of the bronchi and lungs. In severe cases, pulmonary edema or loss of consciousness may occur.

Ingestion: abdominal pain, nausea, vomiting, risk of pulmonary aspiration and chemical pneumonitis. In serious cases fainting may occur, hemolysis, disorders of internal organs.

4.3 Indication of any immediate medical attention and special treatment needed

Doctor makes a decision regarding further medical treatment after thoroughly examination of the injured.

SECTION 5: FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: CO₂ extinguishers, foam extinguishers, powder extinguishers with ABC/BC putting powder, water spray.

Unsuitable extinguishing media: water jet – risk of the propagation of the flame.

5.2 Special hazards arising from the substance or mixture

During the combustion, toxic gases may be generated, such as carbon monoxide, nitric oxides, organic vapors, etc. Avoid inhalation of combustion products that may pose a health risk.

5.3 Advice for firefighters

The protective measures typical in case of fire. Do not stay in the danger zone without adequate fire-resistant clothing and chemical-contained breathing apparatus with independent air circulation. Highly flammable product. Fire or an increase of heating pressure in the tank create a risk of explosion. The affected area should be isolated and any action dangerous for human health or life should be avoided. Product vapors are heavier than air and accumulate in the lower parts of the premises. Formation of explosive mixtures with air is highly probable - if such a danger occurs, order an immediate evacuation. Containers exposed to fire should be cooled from a safe distance with water spray jet. Do not allow extinguishing water entering drains, surface water and groundwater.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Limit the access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. In case of large spills, isolate the affected area. Avoid direct contact with releasing product. Avoid breathing vapors. Use personal protective equipment. Avoid contact with eyes and skin. Provide adequate ventilation.

Remove all sources of ignition, extinguish flames, prohibit smoking. Danger of slipping on spilled product.

6.2 Environmental precautions

In case of release of large amounts of the mixture, it is necessary to take appropriate steps to prevent it from spreading into the environment. Do not let the product to get to the sewage system. Notify relevant emergency services. Replace the contaminated soil.

6.3 Methods and material for containment and cleaning up

Large spill:	Isolate the place of liquid accumulation, pump away the collected liquid.
Small spill:	Collect with incombustible materials which absorb liquids (for example: sand, soil, universal firming agents, silica, vermiculite, etc.) and place in labeled containers. Treat the collected material as waste. Clean and ventilate the affected area.

6.4 Reference to other sections

Appropriate conduct with waste product – see section 13. Personal protective equipment – see section 8.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

Handle in accordance with good occupational hygiene and safety practices. Avoid contact with eyes and skin. Before the break and after work wash your hands. Unused containers should be tightly closed. Ensure adequate ventilation in the premises where the product is used. Do not inhale the vapors. Keep away from the mouth. Do not allow to create the fumes in the concentrations higher than combustion limits. Eliminate sources of ignition - do not use open flames, no smoking, no sparking tools and clothing fabrics which are susceptible to electrify; protect the tanks from heat, install electrical equipment in explosion-proof technology. Pregnant women should not be exposed to the product.

7.2 Conditions for safe storage, including any incompatibilities

Keep in certified, properly labeled, closed, steel containers in a cool, well ventilated warehouse. Keep on a hard impermeable surface made of materials resistant to hydrocarbons. Tanks should be filled up to 90% of their volume. Smoking, eating, using open fire and tools creating sparks is not allowed. Keep away from oxidizing agents.

7.3 Specific end use(s)

No information about other uses than those mentioned in subsection 1.2.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Specification	TWA 8 Hour	STEL 15 Min
1-ethanol e100	192 mg/m ³	384 mg/m ³ (skin)
2-naphta (petroleum) [CAS 78-78-4]	3 000 mg/m ³	1 000 mg/m ³

Legal Basis: Commission Directive 2006/15/EC, 2000/39/EC, 2009/161/EC, 2017/164/EU, 2019/1831/EU.

Please check any national occupational exposure limit values in your country for substance contained in this product.

DNEL values

naphtha (petroleum), light alkylate

Exposure controls

Work in accordance good occupational hygiene and safety practices. During operation, do not eat, drink or smoke. Avoid contact with skin and eyes. Avoid breathing vapors or aerosols. Ensure good local and general ventilation at work stations – to ensure the maintenance of concentrations of hazardous components in the atmosphere below the exposure limit values. In case of spilling the substance on worker, showers and eye safety washers should be installed near the working place.



Hand and body protection

Use gloves resistant to chemicals. In case of short-term exposure wear the protective gloves with protection level 2 or higher (breakthrough time > 30 min). In case of long-term exposure wear the protective gloves with protection level 6 (breakthrough time > 480 min). Wear protective clothing and shoes – antistatic, resistant to chemicals. Glove material should be chosen individually at the working station.

When using protective gloves during work with chemical products, it should be noted that the efficacy levels and corresponding breakthrough times do not indicate actual times of protection at a particular workplace, because the protection can be affected by many factors, e.g. temperature, other substances etc. If there are any signs of degradation, damage or change in appearance (colour, flexibility, shape), it is recommended to replace the gloves with a new pair. Please follow the manufacturer's instructions, not only in terms of gloves' usage, but also in terms of their cleaning, maintenance and storage. It is also important to know how to take off the gloves in order to avoid hands contamination.



Eye/face protection

Wear protective goggles.

Respiratory protection

In case of vapours and aerosols formation, use the absorbing or absorbing and filtering equipment of an adequate protective class (class 1/ protection from gasses or vapours with a volume concentration lower than 0,1%; class 2/ protection from gasses or vapours with a volume concentration lower than 0,5%; class 3/ protection from gasses or vapours with a volume concentration up to 1%). If the concentration of oxygen is $\leq 19\%$ and/or the maximum concentration of toxic substance in the air is $\geq 1,0\%$ of volume the isolating equipment should be used.

Personal protective equipment must meet requirements of regulation 2016/425/EC. Employer is obliged to ensure equipment adequate to activities carried out, with quality demands, cleaning and maintenance.

Environmental exposure controls

Prevent direct runoff into drains / surface waters. Do not contaminate surface waters and drainage ditches, chemicals or used packaging. Any spills, particularly into surface water, should be reported to the appropriate authorities in accordance with national and local regulations. Export as chemical waste in accordance with national and local regulations.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Light green almost clear
Odour:	Characteristic for organic solvents
Odour threshold:	Not determined
pH:	Not determined
melting/freezing point:	88.5
Initial boiling point and boiling range:	20-165 °C
Flash point:	12°C
Evaporation rate:	Not determined
Flammability (solid, gas):	Not applicable
Upper/lower flammability or explosive limits:	Not determined
Vapour pressure (37,8°C):	<80 kPa
Vapour density:	Not applicable
Density (15°C):	0.7885kg/m ³
Solubility(ies):	Does not dissolve in water, dissolves in organic solvents
Partition coefficient:	n-octanol/water: not determined
Auto-ignition temperature:	363°C
Decomposition temperature:	Not determined
Explosive properties:	Vapours may form explosive mixtures with air
Oxidising properties:	Not display
Viscosity (37,8°C):	<1 mmHg

9.2 Other information

No additional data.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product reacts with strong oxidizing agents. The product may soften some plastics.

10.2 Chemical stability

The product is stable under normal conditions.

10.3 Possibility of hazardous reactions

May form explosive mixtures with air.

10.4 Conditions to avoid

Avoid heat sources, elevated temperature, open flames, direct sunlight.

10.5 Incompatible materials

Strong oxidants.

10.6 Hazardous decomposition products

Unknown.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Toxicity of components

naphtha (petroleum), light alkylate

LD50 (orally, rat) >5 000 mg/kg

LD50 (skin, rabbit) >2 000 mg/kg

Toxicity of mixture

Information concerning acute and/or delayed effects of exposure was specified on the base of classification of the product and/or toxicology testing and the manufacturer's knowledge and experience.

Acute toxicity

ATEmix (skin): > 2 000 mg/kg ATEmix (inhalation, vapour): > 5 mg/l Based on available data, the classification criteria are not met.

Skin corrosion/ irritation

Causes skin irritation and dryness.

Serious eye damage/ irritation

Causes serious eye irritation.

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

Suspected of damaging the unborn child.

STOT- single exposure

May cause drowsiness or dizziness.

STOT- repeated exposure

May cause damage to organs through prolonged or repeated exposure through inhalation.

Aspiration hazard

May be fatal if swallowed and enters airways. Due to low viscosity, product can penetrate directly into lungs after ingestion or vomiting and it can cause serious lung damage (aspiration pneumonia).

Health effects of acute exposure

Mucous membrane irritation, tearing, hyperemia of conjunctiva, irritation of the respiratory tract, headache, dizziness, nausea, vomiting; with higher concentrations of vapor: abnormal coordination, confusion, unconsciousness. Acute, severe and even fatal aviation gasoline poisonings occur during cleaning tanks, storage tanks and transfer to another container. There is a risk of aviation gasoline penetration through the soaked clothing and skin into the system. Aviation gasoline damages internal organs, including bone marrow and liver.

Sensitizes the cardiac muscle. Leads to respiratory paralysis.

Health effects of chronic exposure

Most frequent symptoms of chronic poisoning: upper respiratory inflammation and skin inflammation (dryness, redness, cracking). Symptoms that are observed: decreased appetite, general weakness and conjunctivitis, symptoms connected with central nervous system.

SECTION 12: ECOLOGICAL INFORMATION**12.1 Toxicity**

naphtha (petroleum), light alkylate

Toxicity for fish LC50 5,5 mg /l/96h (Oncorhynchus kisutch) Toxicity for daphnia EC50 3,78 mg /l/48h (Ceriodaphnia dubia)

Persistence and degradability

No data.

12.2 Bioaccumulative potential

No data.

12.3 Mobility in soil

Insoluble in water, it floats on the surface. Product is mobile in soil. Mobility of components of the mixture in soil depends on the hydrophilic and hydrophobic properties and biotic and abiotic conditions of soil, including its structure, climatic conditions, seasons and soil organisms (mostly: bacteria, fungus, algae, invertebrates).

12.4 Results of PBT and vPvB assessment

Components of this mixture meet criteria for PBT or vPvB in accordance with Annex XIII of REACH Regulation.

12.5 Other adverse effects

The mixture is not classified as hazardous to the ozone layer. Consider other harmful effects of individual components of the mixture on the environment (e.g., endocrine disrupting potential, global warming potential).

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Disposal methods for the product: Dispose in accordance with applicable regulations. Do not introduce into drains. Residues store in sealed, steel containers. Wastes classify as hazardous waste.

Disposal methods for used packing: Reuse/recycle/eliminate empty containers in accordance with the local legislation. Only completely emptied packaging can be recycled. Do not mix with other waste. The classification for this waste meets the requirements for the hazardous waste.

Legal basis: Directive 2008/98/EC, 94/62/EC.

SECTION 14: TRANSPORT INFORMATION

14.1 UN numer (ONZ Number)

UN 1203

14.2 UN proper shipping name

ADR/RID	MOTOR SPIRIT
IMDG	MOTOR SPIRIT
ICAO/IATA	MOTOR SPIRIT

14.3 Transport hazard class(es)

3



14.3 Packing group

II

14.4 Environmental hazards

The mixture is hazardous for the environment in accordance with the criteria included in transport regulations and in accordance with the criteria covered by the UN Model Regulations includes symbol 5.2.1.8.3 ADR and the entry in the shipping document compliant with 5.4.1.1.18.

Special regulation – label the article (unit packaging over 5 L, IBC and tanks) with the symbol compliant with 5.2.1.3 ADR.

14.5 Special precautions for user

Wear suitable protective clothing, gloves and eye / face protection in accordance with section 8. Avoid ignition sources. Based on the regulation 5.4.1.1.18 ADR, special regulations regarding the carriage of materials hazardous for the environment are in force, so the shipping document (CMR) should include an additional entry “ENVIRONMENTALLY HAZARDOUS” or “MARINE POLLUTANT”.

14.6 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, Authorization 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 as amended.

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 as amended.

Commission Regulation (EC) No 790/2009 of 10 August 2009 amending, for the purposes of its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures (Text with EEA relevance).

Commission Regulation (EU) No 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) (Text with EEA relevance).

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

European Parliament and Council Directive 94/62/EC of 20 December 1994 on packaging and packaging

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for mixtures. waste.

SECTION 16: OTHER INFORMATION

Full text of indicated H phrases mentioned in section 3

H224	Extremely flammable liquid and vapour.
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness. H361d Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Clarification of aberrations and acronyms

Acute Tox. 4	Acute toxicity cat. 4
Asp. Tox. 1	Aspiration hazard cat. 1
Aquatic Chronic 2	Hazardous to the aquatic environment cat. 2
Aquatic Chronic 2	Hazardous to the aquatic environment cat. 2
Flam. Liq. 1	Flammable liquid cat. 1
Flam. Liq. 2	Flammable liquid cat. 2
Flam. Liq. 3	Flammable liquid cat. 3
Repr. 2	Reproductive toxicity cat. 2
Eye Irrit. 2	Skin Irrit. 2
STOT RE 2	Skin irritation cat. 2
STOT RE 2	Eye irritation cat. 2
STOT RE 3	Specific target organ toxicity — repeated exposure cat. 2
STOT RE 3	Specific target organ toxicity — repeated exposure cat. 3

Before commencing working with the product, the user should learn the Health & Safety regulations, regarding handling chemicals, and in particular, undergo a proper workplace training. Persons related to the transportation of the dangerous goods in compliance with the ADR Agreement should be properly trained within the scope of performed tasks (general training, on-the-job training and training related to the safety issues).

Other data

Classification was based on physicochemical studies and data on hazardous substances calculation method under the guidance of Regulation 1272/2008/EC (CLP) as amended. The acute toxicity estimate (ATEmix) was determined using the appropriate conversion value from Table 3.1.2 in Annex I to CLP.

DISCLAIMER

The results displayed in this data sheet have been acquired using the latest revision of the methods indicated unless stated otherwise and may not be reproduced (except in full) without the written approval of Fast Racing Fuels. This test report is computer generated so a signature/stamp is not necessary.



Performance

Formulated for specific applications to ensure optimum performance.



Consistency

All our products offer industry leading levels of consistency and repeatability.



Quality

We pride ourselves on offering the highest standard of quality in each of our products.