

SAFETY DATA SHEET

According to EEC Regulation 91/155/EEC

8.0 Exposure controls / personal protection

1.0	Identification of the substance / preparation and the company / undertaking	
1.1	Product Name Exocet Fuel Cells	
1.2	Supplier John George & Sons Ltd 2-4 Deacon Way Reading RG30 6AZ United Kingdom	
1.3	Emergency Telephone Number 44 (0) 118 941 1234 (during business hours)	
2.0	Composition / information on ingredients	
2.1	Chemical name / content % / MAK-value / BAT-value Propane; 20-40; MAK 1000ppm (1800mg/m³); CAS 74-98-6 Butane; 60-80; 1000ppm (2350mg/m³); CAS 106-97-8	
3.0	Hazards identification	
3.1	To people See point 15. Inhalations of fumes may have a narcotic effect.	
3.2	To the environment	
1.0-	See point 12.	
4.0 4.1	First aid measures Inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. Keep data sheet available.	
4.2	Eye contact Rinse opened eye for several minutes under running water. If symptoms persist consult a doctor.	
4.3	Skin contact Generally the product does not irritate the skin. However wash thoroughly using ample water and remove contaminated clothing. If irritation occurs seek medical attention.	
4.4	Ingestion Call a doctor immediately. Have data sheet available.	
5.0	Fire-fighting measures	
5. l	Suitable extinguishing agents	
5.2	CO ₂ and Dry extinguisher. Do not use water. Unsuitable extinguishing agents for reasons of safety Water.	
5.3	Special dangers caused by the substance itself, results of fire/burning, or ensuring gases Danger of explosion by prolonged heating. Gases hazardous to health (oxides of carbon).	
5.4	Special protective equipment for fire fighting Wear protective equipment. Wear self-contained breathing apparatus.	
6.0	Accidental release measures	
6.I	Person-related safety precautions Wear protective equipment. Keep unprotected persons away. Remove possible causes of ignition - do not smoke. Ensure sufficient supply of air and avoid inhaling	
6.2	Environmental measures Do not allow to enter sewers/surface or ground water. If leakage occurs, dam up.	
6.3	Measures for cleaning up/collecting Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents.	
7.0	Handling and storage	
7. I	Handling	
7.1.1	Information for safe handling Observe directions on label. Ensure good ventilation/exhaustion at the workplace. Open and handle receptacle with care.	
7.1.2	Information about protection against explosions and fires Keep ignition sources away - do not smoke. Protect against electrostatic charges.	
7.2	Storage	
7.2.1	Requirements for storage rooms and containers Do not store in stairwells or gangways. Do not store with flammable or self-igniting materials. Observe regulations for keeping separated. Only store product unopened, in original packaging. Observe special regulations for aerosols.	
7.2.2	Prohibitions for joint storage Observe TRGS 514, TRGS 515 and TRGS 300.	
7.2.3	Special storage conditions	

	Chemical name / content % / MAK-value Propane; 20-40; MAK 1000ppm (1800mg/m³)		
	Propane; 20-40; MAK 1000ppm (18) Butane; 60-80; 1000ppm (2350mg/m		
8. I	Breathing equipment		
		lution use respiratory filter device. In case of spiratory protective device that is independent	
		ratory protective device in case of insufficient	
0.0		only if MAK-value is exceeded (AX).	
8.2	Hand protection Chemical resistant protective gloves	i.	
8.3	Eye protection		
0.4	Tightly sealed protective goggles.		
8.4	Body protection Protective working garments.		
9.0	Physical and chemical pr	operties	
9.1	Appearance / odour		
	Physical state Odour	Aerosol / compressed gas Slight petroleum smell	
	Colour	Colourless	
	pH-value undiluted Flammability	n.v. Yes	
9.2	Danger of explosion (vol %)	163	
7.2	Minimum limit of explosion	I.8 (main subtrates)	
	Maximum limit of explosion	9.5 (main substrates)	
9.3	Further specification Vapour pressure	7.5 bar/20°C: 14.5 bar/50°C	
	Solubility in/miscibility with water	Not miscible or difficult to mix	
10.0	Stability and reactivity		
10.1	Conditions to avoid		
	See point 7. Heating, open flames, i Pressure increase will lead to dange		
10.2	Materials to avoid		
	See point 7. Avoid contact with str Avoid contact with other chemicals	ong oxidizers.	
10.3	Hazardous decomposition prod	lucts	
10.5	See point 5.3. Carbon monoxide ar		
11.0	Toxicological information	on	
11.1	Acute toxicity		
11.1.1	Ingestion LD50 rat oral (mg/kg)	n.v.	
11.1.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h)	n.v.	
11.1.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact		
11.1.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h)	n.v.	
11.1.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact	n.v.	
11.1.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect.	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v.	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity Water hazard class 0	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1 12.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity Water hazard class 0 Self classification acc. to VCI VWVWS (German regulation)	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity Water hazard class 0 Self classification acc. to VCI	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1 12.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity Water hazard class 0 Self classification acc. to VCI VWVWS (German regulation) Degradability	n.v.	
11.1.1 11.1.2 11.1.3 11.1.4 11.2 11.2.1 11.2.2 11.2.3 11.2.4 11.2.5 11.3 12.0 12.1 12.2	Ingestion LD50 rat oral (mg/kg) Inhalation LD50 rat inhal (mg/l/4h) Skin contact LD50 rat dermal (mg/kg) Eye contact No irritating effect. Chronic effects Sensitization n.g. Carcinogenicity n.g. Mutagenicity n.g. Reproductive toxicity n.g. Narcosis n.g. Further specification n.v. Ecological information Acute toxicity Water hazard class 0 Self classification acc. to VCI VWVWS (German regulation) Degradability n.v. Aquatic toxicity	n.v.	

Disposable considerations For the material / preparation / residue EEC disposal code 20 01 22 Recommendation: Recycle, reclaim and dispose of in accordance with applicable local and national official regulations. 13.2 For contaminated packing material Recycle, reclaim and dispose of in accordance with applicable local and national official regulations. Large numbers of aerosol containers may be required to be nandled as hazardous waste. 14.0 **Transport information** General statements UN-Number Road / Rail-transport (GGVS / ADR / GGVE / RID) 14.2 GGVS / ADR 2 / 10b / 2 (class / number) GGVE / RID 2 / 10b / 2 (class / number) 2037 aerosol Transport by sea GGVE Sea / IMDG-code 14.3 2 / - / - (class / code / packing group) FmS-Number 2-13 MFAG-Number (260)Marine Pollutant n.a. 14.4 Transport by air ICAO / IATA-DGR 2 / - / - (class / secondary danger / packing group) 14.5 Additional information Minimum amount regulations have not been taken into account. 15.0 Regulatory information Classification according to Dangerous Product Regulations incl. EEC Guidelines (67/548/EEC and 88/379/EEC) 15.1.1 Symbol F+ R - phrase(s) RI2 Extr 15.1.2 Extremely flammable. RI8 In use, may form flammable / explosive vapour-air mixture. 15.1.3 S - phrase(s) Keep container in a well ventilated place. S23 Do not breathe gas / fumes / vapour / spray. Only use in well ventilated areas. 15.1.4 Additions Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - no smoking. Keep out of the reach of children. 16.0 Other information These details refer to the product as it is delivered. To the best of our knowledge, the information contained herein is accurate. However neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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7.0	Legen	d	
	ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road	
	BAT	Biological tolerance for work places	
	CAS	Chemical Abstracts Service	
	DGR	Dangerous Goods Regulations	
	EmS	Emergency Response Procedures for Ships Carrying Dangerous Goods (EmS) Guide	
	GGVE	Gefahrgut-Verordnung Eisenbahn (German implementation of RID, 2001)	
	GGVS	Gerfahrgutverordnung Straße (German implementation of ADR)	
	IATA	International Air Transportation Association	
	ICAO	International Civil Aviation Organization	
	IMDG	International Maritime Dangerous Goods	
	LD50	Lethal Dose, 50 percent kill	
	MAK	Maximum concentration per work place in ml/m ³ - ppm	
	MFAG	Medical First Aid Guide	
	n.a.	Not applicable	
	n.g.	Not checked	
	n.v. RID	Not available	
		Regulations concerning the international carriage of dangerous goods by rail (EU) $$	
	TDG	Transportation of Dangerous Goods	
	TRGS	Technical Rules for Hazardous Substances	
	VCI	German Chemical Industry Association	