

MATERIAL SAFETY DATA SHEET

PRODUCT NAME : ROTARY PUMP BLADE MATERIAL - FEROFORM F43

1. Product and Company Identification

Product name: Rotary pump blade material - Feroform F43
Synonyms: None
Item Numbers: This material is used for blades in Edwards E1M5, E2M5, E1M8, E2M8, E2M12, E1M18, E2M18 and E2M28/30 pumps, and can be found in new and serviced pumps.

European Contact Details

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Chemtrec: 1-800-424-9300

2. Composition/Information on Ingredients

Ingredient	% Weight	CAS No	Hazard class*	Risk phrase*
Phenolic resin	60	Not assigned	Not applicable	Not applicable
Glass fibre	40	Not assigned	Not applicable	Not applicable

*Hazard class & Risk phrase. These columns are only completed for ingredients which are classified as hazardous under EU Directive (67/548/EEC, as amended) and are present in sufficient concentration to make the overall substance hazardous. In all other situations, the column will be completed as "Not applicable".

3. Hazards Identification

EMERGENCY OVERVIEW

This material when properly handled according to good working and hygienic practices is not dangerous to human health and the environment. Toxic gases are given off on combustion.

For short and long term exposure effects see Section 11 Toxicological information.

Eye Effects: Not applicable to finished components. Dust/particles or thermal decomposition vapours may cause mechanical irritation.

Skin Effects: Non irritant (data for base resin). Dust/particles may cause mechanical irritation.

Inhalation Effects: Not applicable to finished components (pump blades). Base resin has low toxicity.

Ingestion/Oral Effects: Hazardous and irritating vapours generated on overheating. Inhalation of dust may cause chronic lung disease.

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MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Gases/vapours evolved during overheating may affect people with chronic diseases of the respiratory system.

NFPA Hazard codes		HMIS Hazard codes		Rating System
Health	Not known	Health	Not known	0 = No Hazard
Flammability	Not known	Flammability	Not known	1 = Slight Hazard
Instability	Not known	Reactivity	Not known	2 = Moderate Hazard
				3 = Serious Hazard
				4 = Severe Hazard

4. First Aid Measures

- Eyes:** In case of contact with the eyes, rinse with plenty of water for at least 15 minutes, keeping the eyelids open. Seek medical assistance if discomfort persists. In case of contact with molten material, seek immediate medical assistance.
- Skin:** Clean area of skin contaminated by dust or affected or molten material with plenty of cold water, then wash with soap and water. In case of contact with molten material, seek immediate medical assistance.
- Ingestion/Oral:** If swallowed, give the patient plenty of water to drink, and seek medical assistance. DO NOT give anything to drink to an unconscious person.
- Inhalation:** If inhaled, remove to fresh air. If breathing problems occur, a qualified individual should administer oxygen or artificial respiration as indicated. Seek immediate medical assistance.
- Other Information:** See Section 8 Exposure controls/personal protection.

5. Fire Fighting Measures

- Extinguishing Media:** Water or foam.
- Fire and Explosion Hazard:** The material is not flammable. There is a slight dust explosion hazard. Hazardous decomposition products are given off at temperatures above 400 °C (752 °F): see Section 10.
- Special Protective Equipment for Fire Fighters:** Fire fighters should wear a self-contained breathing apparatus (SCBA) which meets appropriate standards operated in positive pressure mode and full turnout gear. Wear skin protection adequate to protect from thermal decomposition products.

For Flammability Properties - see Section 9

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6. Accidental Release Measures

May present a slip hazard. Put on the necessary protective clothing as specified in Section 8.

Use an industrial vacuum cleaner (with 'H' type filters and suitable bags) to vacuum up any spill. If a vacuum cleaner cannot be used, dampen the spilled dust and collect while still damp. Place the collected spilled dust in suitable containers for recovery or disposal.

7. Handling and Storage

Handling: Take precautionary measures against dust explosions. Avoid prolonged heating above 400 °C (753 °F).

Storage: Store in clean, dry conditions. Store in sealed containers to maintain dryness of the material.

8. Exposure Controls/Personal Protection

Exposure Limits:

Ingredient	ACGIH - TLV -	OSHA - PEL	Occupational Exposure Limits EH40 (UK)
Glass fibre	5 mg/m ³ - 8 H TWA (inhalable dust) 2 f/ml - 8 H TWA ⁽¹⁾ (respirable dust)	15 mg/m ³ (total) 5 mg/m ³ (respirable)	⁽²⁾ Total Inhalable dust - TWA - 8h - 10mg/m ³ ⁽²⁾ Respirable dust - TWA - 8h - 5mg/m ³

(1) Fibres longer than 5 µm with a diameter less than 3 µm - aspect ratio greater than 5:1.

(2) Recommended lower limits.

Personal Protection:

Engineering Measures: Provide local exhaust ventilation when processing material, or when dust/particles may be present.

Respiratory Protection: Wear dust mask when processing material, or when dust/particles may be present.

Hand/Skin Protection: Wear protective gloves when processing material, or when dust/particles may be present.

Eye/Face Protection: Wear protective goggles/safety glasses/face shield when processing material, or when dust/particles may be present.

Hygiene Measures: Observe normal standards of industrial hygiene. Do not eat, drink or smoke when handling material. Wash hands before eating, drinking or smoking.

Other/General Protection: Wear suitable protective clothing with long sleeves and full-length leg protection whenever there is the possibility of contact with hot materials.

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9. Physical and Chemical Properties

Appearance and Odour	Green. Slight characteristic odour.	Boiling point	Not applicable	°C/°F
pH (as supplied)	Not applicable	Freezing Point	Not applicable	°C/°F
Solubility in Water	Not soluble	Auto Ignition	Not applicable	°C/°F
Volatile Content by Volume	Not applicable	Flash Point	Not applicable	°C/°F
Specific Gravity	1.2 - 1.9			
Vapour Pressure (mbar)	No data available	Vapour Pressure (Torr)	No data available	

10. Stability and Reactivity

Stability:	There is a slight possibility of a dust explosion.
Material/Conditions to Avoid:	Contact with strong acids or alkalis. Prolonged exposure to temperatures above 400 °C (752 °F).
Hazardous Decomposition:	At temperatures above 400 °C (752 °F), ammonia, carbon monoxide, carbon dioxide, formaldehyde, ethylene and benzene may be given off.
Hazardous Polymerisation:	No data available.

11. Toxicological Information

For a comprehensive description for the various toxicological (health) effects which may arise if the user comes into contact with the substance or preparation refer to Section 3 Hazards Identification.

Animal data:

LD50 value:	No data available
LC50 value:	No data available

Carcinogenicity:

No data available

12. Ecological Information

No information available.

13. Disposal Considerations

Where possible, recycle the product and packaging. Dispose of the product and any packaging in accordance with all local, federal and state regulations

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14. Transport Information

This product is not classified as dangerous under transport regulations.

PARAMETER	EUROPEAN	CANADIAN TDG	UNITED STATES DOT
Proper Shipping Name	Not applicable	Not applicable	Not applicable
Hazard Class	Not applicable	Not applicable	Not applicable
Identification Number	Not applicable	Not applicable	Not applicable
Shipping Label	Not applicable	Not applicable	Not applicable

15. Regulatory Information

European Regulatory Information

This product has been classified in accordance with the Dangerous Substances Directive (67/548/EEC, as amended) and the Preparations Directive (88/379/EEC, as amended), implemented in the UK as the Chemical (Hazard Information and Packing) Regulations 1994 (CHIP, as amended).

Classified as dangerous to supply : No

Risk Phrases : Not applicable

Safety Phrases : Not applicable

Symbols : None

United States Regulatory Information

Product is a manufactured article not subject to TSCA listing.

SARA TITLE III - SECTION 313 SUPPLIER NOTIFICATION: This product constitutes an "article" and, as such is exempt from SARA 313 reporting requirements (40 CFR Part 372.38, Paragraph B).

California Proposition 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

Canadian Regulatory Information

WHMIS Classification: Product is a manufactured article not subject to WHMIS regulations.

Product is a manufactured item not subject to DSL listing.

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16. Other Information

This MSDS is compiled in accordance with ANSI Z400.1 and the EU Safety Data Sheet Directive 91/155/EEC.

Sources of information for this data sheet:

- TENMAT LTD "FEROFORM (F21, F24, F32, F36, F363, F43, F57, F573, F61, EM2050 GRADES)" MATERIAL SAFETY DATA SHEET, MSDS NUMBER: FEROFORM F & EM, DATE OF ISSUE: APRIL 2004, REVISION: AUGUST 2005.

Glossary:

ACGIH - American Conference of Governmental Industrial Hygienists; ANSI - American National Standards Institute; Canadian TDG - Canadian Transportation of Dangerous Goods; CAS - Chemical Abstracts Service; CFR - Code of Federal Regulations; Chemtrec - Chemical Transportation Emergency Center (US); CHIP - Chemical (Hazard Information and Packing); DSL - Domestic Substances List; EH40 (UK) - HSE Guidance Note EH40 Occupational Exposure Limits; EU - European Union; HMIS - Hazardous Material Information Service; LC - Lethal Concentration; LD - Lethal Dose; NFPA - National Fire Protection Association; OSHA - Occupational Safety and Health Administration, US Department of Labour; PEL - Permissible Exposure Limit; SARA (Title III) - Superfund Amendments and Reauthorization Act; SARA 313 - Superfund Amendments and Reauthorization Act, Section 313; SCBA - Self-Contained Breathing Apparatus; TLV - Threshold Limit Value; TSCA - Toxic Substances Control Act Public Law 94-469; TWA - Time-Weighted Average; US DOT - US Department of Transportation; WHMIS - Workplace Hazardous Materials Information System;

Revisions:

Not applicable.

Although the information and recommendations in this data sheet are to the best of our knowledge correct, it is recommended that you make your own determination of the material's suitability for your purpose before you use it. The information contained in this data sheet has been reproduced from the manufacturers data; the accuracy of this information is the responsibility of the manufacturer. Edwards accept no responsibility for damage of any nature resulting from the use of, or the reliance upon, this data sheet.