

# SAFETY DATA SHEET

Revision Date 09-February-2025

Revision Number 1

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

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### 1.1.1 Product Identification

**Product Description:** MGF (MECHANO GROWTH FACTOR)  
**Cat No. :** PEP039  
**CAS No** 87616-84-0  
**Molecular Formula** C46H56N12O6

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

**Recommended Use** Laboratory chemicals.  
**Uses advised against** No Information available

### 1.3 Details of the supplier of the safety data sheet

#### Company

Research Scientific Ltd  
107-111 Ringwood Road  
Christchurch  
Dorset  
BH23 5RA  
United Kingdom

**Office Tel:** +44 (0) 1202 155688  
**E-mail address** support@researchscientific.co.uk

### 1.4 Emergency telephone number

**For information** +44 (0) 1202 155688  
**Emergency Number** +44 (0) 1202 155688 // +44 (0) 7967 782399

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**SECTION 2: HAZARDS IDENTIFICATION**

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**2.1 Classification of the substance or mixture**

*According to GB-CLP Regulations UK SI-2019/720 and UK SI 2020/1567 Physical hazards*

<b>CLP Classification</b>	Based on the available data; the classification criteria are not met.
<b>Health Hazards</b>	Based on the available data; the classification criteria are not met.
<b>Environmental Hazards</b>	Based on the available data; the classification criteria are not met.

**2.2 Classification of the substance or mixture**

None Required

**2.3 Other Hazards**

This product does not contain any known or suspected endocrine disruptors

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**SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS**

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**3.1 Substances**

<b>Component</b>	MGF (MECHANO GROWTH FACTOR)
<b>CAS Number</b>	87616-84-0
<b>Weight</b>	<=100
<b>CLP Classification</b>	N/A

**\*\* For full text of hazard statements: see section 16**

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**SECTION 4: FIRST AID MEASURES**

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**4.1 Description of first aid measures**

<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Self-Protection of the First Aider</b>	No special precautions required

**4.2 Most important symptoms and effects, both acute and delayed**

None reasonably foreseeable

**4.3 Indication of any immediate medical attention and special treatment needed**

Notes to Physician – Treat symptomatically.

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**SECTION 5: FIREFIGHTING MEASURES**

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**5.1 Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Water spray, carbon dioxide (CO<sub>2</sub>), dry chemical, alcohol-resistant foam.

**Extinguishing media which must not be used for safety reasons**

No information available.

**5.2 Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating gases and vapours.

**Hazardous Combustion Products**

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>).

### 5.3 Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

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### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

Avoid dust formation.

### 6.2 Environmental precautions

Should not be released into the environment.

See Section 12 for additional Ecological Information.

### 6.3 Methods and material for containment and cleaning up

Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

### 6.4 Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

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## SECTION 7: HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Avoid dust formation.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in freezer.

Technical Rules for Hazardous Substances (TRGS) 510 Class 11

Storage Class (LGK) (Germany)

### 7.3 Specific end use(s)

Use in laboratories

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## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

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### 8.1. Control parameters

#### Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region-specific regulatory bodies

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

No information available

#### Predicted No Effect Concentration (PNEC)

No information available.

### 8.2 Exposure controls

#### Engineering Measures

None under normal use conditions.

#### Personal protective equipment

##### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

##### Hand Protection

Protective gloves

<b>Glove material</b>	Nitrile rubber, Neoprene, Natural rubber, PVC
<b>Breakthrough time</b>	See manufacturers recommendations
<b>Glove thickness</b>	N/A
<b>EU standard</b>	EN 374
<b>Glove comments</b>	Minimum Requirement

**Skin and body protection**

Long sleeved clothing.

**Important Notes**

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

**Respiratory Protection**

No protective equipment is needed under normal use conditions.

**Large scale/emergency use**

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particle filter

**Small scale/Laboratory use**

Maintain adequate ventilation

**Environmental exposure controls**

No information available.

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**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**


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**9.1. Information on basic physical and chemical properties**

<b>Physical State</b>	Solid Lyophilized
<b>Appearance</b>	White - Off-white
<b>Odor</b>	No information available
<b>Odor Threshold</b>	No data available
<b>Melting Point/Range</b>	No data available
<b>Softening Point</b>	No data available
<b>Boiling Point/Range</b>	No information available
<b>Flammability (liquid)</b>	Not Applicable

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<b>Flammability (solid, gas)</b>	No information available	<i>Solid</i>
<b>Explosion Limits</b>	No data available	
<b>Flash Point</b>	No information available	
<b>Autoignition Temperature</b>	No data available	
<b>Decomposition Temperature</b>	No data available	
<b>pH</b>	No information available	
<b>Viscosity</b>	Not Applicable	<i>Solid</i>
<b>Water Solubility</b>	No information available	
<b>Solubility in other solvents</b>	No information available	
<b>Partition Coefficient (n-octanol/water)</b>	No data available	
<b>Vapor Pressure</b>	No data available	
<b>Density / Specific Gravity</b>	No data available	
<b>Bulk Density</b>	No data available	
<b>Vapor Density</b>	Not Applicable	<i>Solid</i>
<b>Particle characteristics</b>	No data available	
<b>9.2 Other Information</b>		
<b>Molecular Formula</b>	C <sub>46</sub> H <sub>56</sub> N <sub>12</sub> O <sub>6</sub>	
<b>Molecular Weight</b>	No data available	
<b>Evaporation Rate</b>	Not Applicable	<i>Solid</i>

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### SECTION 10: STABILITY AND REACTIVITY

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#### 10.1 Reactivity

None known, based on information available

#### 10.2 Chemical stability

Stable under normal conditions

**10.3 Possibility of hazardous reactions****Hazardous Polymerization** No information available.**Hazardous Reactions** None under normal processing.**10.4 Conditions to avoid**

Incompatible products. Excess heat.

**10.5 Incompatible materials**

None known.

**10.6 Hazardous decomposition products**Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

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**SECTION 11: TOXICOLOGICAL INFORMATION**


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**11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008****Product Information****(a) acute toxicity:-****Oral** No data available**Dermal** No data available**Inhalation** No data available**(b) skin corrosion/irritation;** No data available**(c) serious eye damage/irritation;** No data available**(d) respiratory or skin sensitization:-****Respiratory** No data available**Skin** No data available**(e) germ cell mutagenicity;** No data available**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product



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<b>(g) reproductive toxicity;</b>	No data available
<b>(h) STOT-single exposure;</b>	No data available
<b>(i) STOT-repeated exposure;</b>	No data available
<b>Target Organs</b>	No information available.
<b>(j) aspiration hazard;</b>	Not applicable Solid
<b>Symptoms / effects, both acute and delayed</b>	No information available.

### 11.2 Information on other hazards

#### Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

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## SECTION 12: STABILITY AND REACTIVITY

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#### 10.1 Reactivity

None known, based on information available

#### 12.1 Toxicity

##### Ecotoxicity effects

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants.

#### 12.2 Persistence and degradability

No information available

#### 12.3 Bio accumulative potential

No information available

#### 12.4 Mobility in soil

No information available

#### 12.5 Results of PBT and vPvB assessment

No data available for assessment.

**12.6 Endocrine disrupting properties****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**12.7 Other adverse effects****Persistent Organic Pollutant**

This product does not contain any known or suspected substance

**Ozone Depletion Potential**

This product does not contain any known or suspected substance

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**SECTION 13: DISPOSAL CONSIDERATIONS**

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**10.1 Waste treatment methods****Waste from Residues/Unused Products**

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

**Contaminated Packaging**

Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.

**European Waste Catalogue (EWC)**

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

**Other Information**

Waste codes should be assigned by the user based on the application for which the product was used.

## SECTION 14: TRANSPORT INFORMATION

<b>14.1 IMDG/IMO</b>	Not regulated
<b>14.2 UN number</b>	Not regulated
<b>14.3 UN proper shipping name</b>	Not regulated
<b>14.4 Transport hazard class(es)</b>	Not regulated
<b>14.5 Packing group</b>	Not regulated
<b>14.6 Environmental hazards</b>	No hazards identified
<b>14.7 Special precautions for user</b>	No special precautions required.
<b>14.8 Maritime transport in bulk according to IMO</b>	Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

## 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

## International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS Number	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
MGF (MECHANO GROWTH FACTOR)	87616-84-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Component	CAS Number	TSCA	TSCA Inventory notification Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
MGF (MECHANO GROWTH FACTOR)	87616-84-0	N/A	N/A	N/A	N/A	N/A	N/A	N/A

**Authorisation/Restrictions according to EU REACH**

Component	CAS Number	REACH (1907/2006) Annex XIV - Substances Subject to Authorisation	REACH (1907/2006) Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 Candidate List of Substances of Very High Concern (SVHC)
MGF (MECHANO GROWTH FACTOR)	87616-84-0	N/A	N/A	N/A

**Seveso III Directive (2012/18/EC)**

Component	CAS Number	Seveso III Directive (2012/18/EC) Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) Qualifying Quantities for Safety Report Requirements
MGF (MECHANO GROWTH FACTOR)	87616-84-0	N/A	N/A

**Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals**

Not applicable

**Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?**

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

**National Regulations****UK**

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

**WGK Classification**

Water endangering class = 3 (self-classification)

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

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## SECTION 16: OTHER INFORMATION

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### Full text of H-Statements referred to under sections 2 and 3

#### Legend

<b>CAS</b> - Chemical Abstracts Service	<b>TSCA</b> - United States Toxic Substances Control Act Section 8(b) Inventory
<b>EINECS/ELINCS</b> - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances	<b>DSL/NDSL</b> - Canadian Domestic Substances List/Non-Domestic Substances List
<b>PICCS</b> - Philippines Inventory of Chemicals and Chemical Substances	<b>ENCS</b> - Japanese Existing and New Chemical Substances
<b>IECSC</b> - Chinese Inventory of Existing Chemical Substances	<b>AICS</b> - Australian Inventory of Chemical Substances
<b>KECL</b> - Korean Existing and Evaluated Chemical Substances	<b>NZIoC</b> - New Zealand Inventory of Chemicals
<b>WEL</b> - Workplace Exposure Limit	<b>TWA</b> - Time Weighted Average
<b>ACGIH</b> - American Conference of Governmental Industrial Hygienists	<b>IARC</b> - International Agency for Research on Cancer
<b>DNEL</b> - Derived No Effect Level	Predicted No Effect Concentration (PNEC)
<b>RPE</b> - Respiratory Protective Equipment	<b>LD50</b> - Lethal Dose 50%
<b>LC50</b> - Lethal Concentration 50%	<b>EC50</b> - Effective Concentration 50%
<b>NOEC</b> - No Observed Effect Concentration	<b>POW</b> - Partition coefficient Octanol: Water
<b>PBT</b> - Persistent, Bio accumulative, Toxic	<b>vPvB</b> - very Persistent, very Bio accumulative
<b>ADR</b> - European Agreement Concerning the International Carriage of Dangerous Goods by Road	<b>ICAO/IATA</b> - International Civil Aviation Organization/International Transport Association
<b>IMO/IMDG</b> - International Maritime Organization/International Maritime Dangerous Goods Code	<b>MARPOL</b> - International Convention for the Prevention of Pollution Ships
<b>OECD</b> - Organisation for Economic Co-operation and Development	<b>ATE</b> - Acute Toxicity Estimate
<b>BCF</b> - Bioconcentration factor	<b>VOC</b> - (Volatile Organic Compound)

**Key literature references and sources for data** <https://echa.europa.eu/information-on-chemicals>  
Suppliers safety data sheet, Research Scientific Ltd

#### Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

#### Prepared By

Health, Safety and Environmental Department

#### Revision Date

09-Feb-2025

New emergency telephone response service provider.

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

#### Disclaimer

**The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information**

## SAFETY DATA SHEET

**relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text**

End of Safety Data Sheet