

## Material Safety Data Sheet

### Recombinant mouse LIF protein (Qk018)

Recombinant mouse LIF (leukemia inhibitory factor) protein increases the robustness of mouse embryonic stem cell culture in feeder or feeder-free chemically defined culture systems. High-quality recombinant mouse LIF contributes to successful and reproducible propagation of mouse ES cells.

Qkine products are not for use in humans and are not for diagnostic or therapeutic use.

The protein is provided lyophilized, carrier protein free, sodium azide-free and animal-derived component free.

### Manufacturer

Qkine Ltd

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**Country of Origin:** United Kingdom

**Our products are for research use only and not for diagnostic or therapeutic use.**

**Emergency telephone number:** in an emergency call 999 or 112

For medical advice in England, Scotland and Wales, call 111 or go online to [111.nhs.uk](http://111.nhs.uk) (for people aged 5 and over only). For areas of Wales not covered by 111, call NHS Direct Wales (0845 46 47)

To use the NHS 111 British Sign Language (BSL) interpreter service go to [www.interpreternow.co.uk/nhs111](http://www.interpreternow.co.uk/nhs111). You can also call 18001 111 on a textphone.

### Hazards Identification

**Classification of substance or mixture:** Not a hazardous substance or mixture.

**GHS classification:** Does not meet the classification criteria of the EC Directives 67/548/EEC, 1999/45/EC or 1272/2008

**GHS labelling:** Does not need to be labelled in accordance with EC directives or respective national laws.

**Special hazards:** None

### Composition / Information on Ingredients

**Ingredients:** This product does not contain any hazardous substances at concentrations of 1% or greater. This product is not known to contain carcinogens at a concentration of 0.1% or greater. No MSDS is required.

## First Aid Measures

**Eye contact:** may cause eye irritation. Immediately flush eyes with plenty of water, then remove any contact lenses and continue to flush eyes with water for 15 minutes. Seek immediate medical attention if irritation persists.

**Skin contact:** may cause skin irritation. Immediately wash off with plenty of soap and water.

**Inhalation:** no recognised inhalation hazard. If inhaled, remove to fresh air. If breathing becomes difficult, seek immediate medical attention.

**Ingestion:** no recognised ingestion hazard. If ingested, rinse out mouth with plenty of water.

## Fire Fighting Measures

**Classification of substance or mixture:** the product is non-flammable.

**Suitable extinguishing media:** use extinguishing media appropriate to the surrounding environment

**Specific hazards arising from substance:** no specific hazards arising from substance

**Protective equipment:** no special precautions required

## Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** wear gloves and appropriate eye protection. Prevent inhalation of dust.

**Environmental precautions:** do not allow product to enter the drains

**Methods and material for containment and cleaning up:** prevent further leakage or spillage if safe to do so. Use absorbent material to soak up the spillage and dispose of in accordance with applicable laws, environmental legislation and good laboratory practices.

## Handling and Storage

**Handling:** avoid inhalation. Avoid contact with eyes, skin, and clothing.

**Storage:** keep vial tightly closed. Store at -80 °C until use.

**Additional information:** see certificate of analysis for further information on handling and storage.

## Exposure Controls / Personal Protection

**Control parameters:** contains no substances with occupational exposure limit values.

**Engineering controls:** use in a laboratory fume hood

**Eye:** wear appropriate eye protection.

**Skin:** handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices.

**Inhalation:** respiratory equipment is not required.

## Physical and Chemical Properties & Safety Characteristics

**Physical State:** lyophilized

**Colour:** clear

**Odour:** none

**Melting Point/Freezing Point:** no data available

**Boiling Point:** no data available

**Flammability:** no data available

**Explosion Limits:** no data available

**Flash Point:** no data available

**Autoignition Temperature:** no data available

**Decomposition Temperature:** no data available

**pH:** no data available

**Viscosity:** no data available

**Solubility in Water:** no data available

**Partition Co-efficient - n-octanol/water (log value):** no data available

**Vapour Pressure:** no data available

**Density:** no data available

**Relative Vapour Density:** no data available

**Particle Characteristics:** no data available

## Stability and Reactivity

**Reactivity:** no data available

**Chemical stability:** stable under normal use conditions

**Possibility of hazardous reactions:** no hazardous reactions will occur under normal handling and storage conditions

**Conditions to avoid:** none

**Incompatible materials:** none

**Hazardous decomposition products:** none under normal use conditions

## Toxicological Information

**Information on toxicological effects:** Product does not present an acute toxicity hazard based on known or supplied information

## Ecological Information

**Toxicity:** under normal use and conditions, this product is not expected to have an adverse environmental impact

**Persistence and degradability:** no data available

**Bioaccumulative potential:** no data available

**Mobility in soil:** no data available

**Results of PBT and vPvB assessment:** no data available

**Other adverse effects:** no data available

## Disposal Considerations

**Waste treatment methods:** Dispose of in accordance with applicable laws, environmental legislation and good laboratory practices.

## Transport Information

**UN number:** not regulated

**UN proper shipping name:** not regulated

**Transport hazard class(es):** not regulated

**Packing group:** not regulated

**Environmental hazards:** not regulated

**Special precautions for user:** not regulated

**Transport in bulk according to Annex II of MARPOL[5] and the IBC Code:** not regulated

## Regulatory Information

**Safety, health and environmental regulations/legislation specific for the substance or mixture:** not applicable

**Chemical safety assessment:** not applicable

## Other Information

Qkine products are not for use in humans and are not for diagnostic or therapeutic use. Customers agree to comply with the provisions of applicable international and local statutes, rules, regulations, ordinances and orders when using Qkine products.

Qkine products are for internal research purposes only and not for resale or transfer in any form (including as part of a kit) to a third party unless agreed with Qkine in writing.

Qkine is not responsible for patent infringement or other violations which may occur with the use of these products.

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