SAFETY DATA SHEET

(In accordance with COMMISSION REGULATION (EU) No 830/2015)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

Product code	Y01396
Product name	KLENOW FRAGMENT ASSY
Chemical Name	Not Applicable
REACH registration number	No registration number is given yet for this substance / substances in this mixture since the annual import quantity is less than one tonnage per annum or the transition period for its registration according to Article 23 of REACH has not yet expired.

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

Relevant identified uses	For research use only
Use Description Code	SU22 - Public domain (administration, education, entertainment, services, craftsmen), PROC15 - Use as a laboratory reagent, PC21 - Laboratory chemicals, SU24 - Scientific research and development
Uses advised against	Not for consumer use.

Details of the supplier of the safety data sheet

Manufacturer/Supplier
LIFE TECHNOLOGIES EUROPE BV
KWARTSWEG 2
2665 NN BLEISWIJK
NETHERLANDS
31-(0)180 392 400
Email: MSDS@lifetech.com

24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC	Within the USA + Canada: 1-800-424-9300 and +1 703-527-3887 Outside the USA + Canada: +1 703-741-5970

Country specific Emergency Number (if available):

CHEMTREC Ireland (Dublin)	+(353)-19014670 (Greeting Language: English and Irish)
CHEMTREC UK (London)	+(44)-870-8200418 (Greeting Language: English)

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Physical hazards
Not Hazardous

Health hazards
Not Hazardous

Environmental Hazards
Not Hazardous

Additional information
Not Applicable

Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]

Hazard pictograms
No Pictogram

Signal word
None

Hazard Statements
Not Applicable

Precautionary Statements

Prevention
Not Applicable

Response
Not Applicable

Storage
Not Applicable

Disposal
Not Applicable

Other hazards
Not Applicable

SECTION 3: Composition/information on ingredients

Component	CAS-No.	EINECS-No.	Weight percent	REACH registration number	Classification according to Regulation (EC) No 1272/2008 [CLP]
Glycerin 56-81-5 (30-60)	56-81-5	200-289-5	30-60	01-2119471987-18-XXXX	-

SECTION 4: First aid measures

Description of first aid measures

Skin contact Rinse with plenty of water. Immediate medical attention is not required.

Eye contact Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

INGESTION Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice.

Inhalation Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.

Notes to Physician Treat symptomatically.

Most important symptoms and effects, both acute and delayed
Not Applicable

Indication of any immediate medical attention and special treatment needed
None.

SECTION 5: Firefighting measures

Extinguishing media

Suitable Extinguishing Media Water spray. Carbon dioxide (CO2). Foam. Dry chemical.

Unsuitable Extinguishing Media No information available.

Special hazards arising from the substance or mixture Not Known.

Advice for fire-fighters Standard procedure for chemical fires.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation. Always wear recommended Personal Protective Equipment. Use personal protection equipment. See Section 8 for more detail.

Environmental precautions
No special environmental precautions required. Avoid discharge into drains and waterways whenever possible.

Methods and material for containment and cleaning up
Soak up with inert absorbent material.

Reference to other sections
See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling
Use personal protective equipment as required. No special handling advices are necessary.

Conditions for safe storage, including any incompatibilities
Keep in a dry, cool and well-ventilated place. Keep in properly labelled containers.

Specific end use(s)
For research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Chemical Name	EU OEL (TWA)	EU OEL (STEL)	EU Skin Notation
Glycerin 56-81-5	None	None	None

Chemical Name	Austria	Belgium (TWA)	Denmark (TWA)	Finland OEL (TWA)
Glycerin 56-81-5	None	10 mg/m³	None	None

Chemical Name	France OEL (VME)	Germany OEL (TWA)	Ireland (TWA)	Italy OEL (TWA)
Glycerin 56-81-5	10 mg/m³	200 mg/m³ exposure factor 2	10 mg/m³	None

Chemical Name	Sweden - Occupational Exposure Limits - TLVs (LLVs)	Netherlands OEL (MAC)	Spain OEL (TWA)	United Kingdom
Glycerin 56-81-5	None	None	10 mg/m³	10 mg/m³ TWA (mist)

Chemical Name	European Union	France OEL (VME)	Germany OEL (TWA)
Glycerin 56-81-5	None	10 mg/m³	200 mg/m³ exposure factor 2

Chemical Name	Italy OEL (TWA)	Portugal	Netherlands OEL (MAC)	Finland OEL (TWA)
Glycerin 56-81-5	None	None	None	None

Chemical Name	Austria	Denmark	Poland	Switzerland
Glycerin 56-81-5	None	None	None	None

Chemical Name	Ireland	Norway	Lithuania OEL (TWA)	Spain OEL (TWA)
Glycerin 56-81-5	None	None	None	10 mg/m³

Engineering measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal protection equipment

Respiratory protection In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

Hand Protection Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection Tight sealing safety goggles.

Skin and body protection Wear suitable protective clothing.

Hygiene measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
No special environmental precautions required.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Liquid	
Odour	no data available	
pH	Mixture has not been tested	
Melting point / melting range	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Boiling point / boiling range	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Flash point	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Autoignition temperature	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Decomposition temperature	**°C** Mixture has not been tested	**°F** Mixture has not been tested
Evaporation rate	No data available	
Flammability (solid, gas)	Not applicable	
Upper explosion limit	Mixture has not been tested	
Lower explosion limit	Mixture has not been tested	
Vapour Pressure	Mixture has not been tested	
Relative density	Mixture has not been tested	
Specific gravity	No data available	
Solubility	Soluble in water	
Partition coefficient: n-octanol/water	No data available	
Explosive properties	Mixture has not been tested	

OTHER INFORMATION No data available

SECTION 10: Stability and reactivity

Reactivity None known.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Hazardous reaction has not been reported.

Conditions to Avoid None under normal processing.

Incompatible Materials Strong acids. oxidising agents. Acetic anhydride. Isocyanates. Ammonia. Bases.

Hazardous decomposition products Carbon oxides.

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Glycerin	= 12600 mg/kg Oral	No data available	>570mg/m³(Rat)

Principal Routes of Exposure, Potential health effects

Irritation Conclusive but not sufficient for classification

Corrosivity Conclusive but not sufficient for classification

Sensitisation Conclusive but not sufficient for classification

STOT - Single Exposure Conclusive but not sufficient for classification

STOT - Repeated Exposure Conclusive but not sufficient for classification

Carcinogenicity Conclusive but not sufficient for classification

Mutagenicity Conclusive but not sufficient for classification

Reproductive toxicity Conclusive but not sufficient for classification

Aspiration Hazard Conclusive but not sufficient for classification

SECTION 12: Ecological information

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

Chemical Name	Freshwater Algae Data	Water Flea Data	Freshwater Fish Species Data	Microtox Data	log Pow
Glycerin	No data available	Daphnia magna EC50>500 mg/L (24 h)	No data available	No data available	logPow-1.76

Persistence and degradability Inherently biodegradable.

Bioaccumulative potential Material does not bioaccumulate.

Results of PBT and vPvB assessment
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Waste treatment methods
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG
Not classified as dangerous in the meaning of transport regulations.

UN Number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable
Environmental Hazards	Not Applicable
Special precautions for user	Not Applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not Applicable.

SECTION 15: Regulatory information

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

Substances of Very High Concern
None.

Restricted substances under EC 1907/2006, Annex XVII
None.

Substances listed under Annex I of Regulation (EC) No 689/2008
None.

Restricted substances under Annex V of Regulation (EC) No 689/2008
None.

Substances under Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC
None.

German Water hazard classes (Wassergefährdungsklassen)

Chemical Name	Weight percent	Germany - Water Classification (VwVwS) - Annex 1	Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes	Germany - Water Classification (VwVwS) - Annex 3
Glycerin	30-60		hazard class 1 - low hazard to waters	

Other International Inventories

Chemical Name	EINECS (European Union)	ELINCS (European List of Notified Chemical Substances)	ENCS (Japan)	PICCS (Philippines)
Glycerin	Listed	-	Listed	Listed

Chemical Name	AICS (Australia)	South Korea (KECL)	Canada (DSL)	NDSL
Glycerin	Listed	Listed	Listed	-

Chemical Safety Assessment
No Chemical safety assessment has been carried out.

SECTION 16: Other information

Reason for revision Update according to Commission Regulation (EU) No 830/2015
Revision number 2
Revision date 23-Oct-2017

References
• ECHA: http://echa.europa.eu/
• TOXNET: http://toxnet.nlm.nih.gov/
• eChemPortal: http://www.echemportal.org/
• LOLI database: https://www.chemadvisor.com/loli-database

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:
Not classified

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED,INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"