

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

### 1.1. Product identifier

|                           |   |
|---------------------------|---|
| Product Description:      | <u>Glycerol</u>   |
| Cat No. :                 | G/0650/08, G/0650/15, G/0650/17, G/0650/21, G/0650/24, G/0650/25, G/0650/27 |
| Synonyms                  | Glycerine   |
| CAS No                    | 56-81-5   |
| EC No                     | 200-289-5   |
| Molecular Formula         | C3 H8 O3  |
| REACH registration number | Exempt 1907/2006/EC Annex V.9   |

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

|                                |                          |
|--------------------------------|--------------------------|
| Recommended Use                | Laboratory chemicals.    |
| Sector of use                  | -                        |
| Product category               | -                        |
| Process categories             | -                        |
| Environmental release category | -                        |
| Uses advised against           | No Information available |

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

#### Company

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road, Loughborough,  
Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a  
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

Tel: 01509 231166  
Chemtrec US: (800) 424-9300  
Chemtrec EU: 001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

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Based on available data, the classification criteria are not met

## **Health hazards**

Based on available data, the classification criteria are not met

## **Environmental hazards**

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## **2.2. Label elements**

None required

## **2.3. Other hazards**

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

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

### **3.1. Substances**

| Component | CAS No  | EC No     | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|-----------|---------|-----------|----------|---|
| Glycerin  | 56-81-5 | 200-289-5 | >95      | -   |

**REACH registration number**

Exempt 1907/2006/EC Annex V.9

Full text of Hazard Statements: see section 16

## **SECTION 4: FIRST AID MEASURES**

### **4.1. Description of first aid measures**

#### **Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists: Get medical advice/attention.

#### **Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

#### **Ingestion**

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

#### **Inhalation**

Remove to fresh air. Get medical attention immediately if symptoms occur.

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**Self-Protection of the First Aider** 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.

## **SECTION 5: FIREFIGHTING MEASURES**

### **5.1. Extinguishing media**

#### **Suitable Extinguishing Media**

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**

Keep product and empty container away from heat and sources of ignition.

#### **Hazardous Combustion Products**

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

### **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.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

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

Use personal protective equipment as required. Ensure adequate ventilation.

### **6.2. Environmental precautions**

Should not be released into the environment.

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

Sweep up and shovel into suitable containers for disposal.

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid

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ingestion and inhalation.

## 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

Keep containers tightly closed in a dry, cool and well-ventilated place. To maintain product quality, do not store in heat or direct sunlight. Protect from moisture. Do not freeze.

Technical Rules for Hazardous Substances (TRGS) 510 Class 10  
Storage Class (LGK) (Germany)

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s): **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

| Component | The United Kingdom                         | European Union | Ireland                                |
|-----------|--|----------------|--|
| Glycerin  | TWA: 10 mg/m <sup>3</sup> 8 hr (mist only) |                | TWA: 10 mg/m <sup>3</sup> 8 hr. (mist) |

#### 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)

See table for values

| Component                 | Acute effects local (Inhalation) | Acute effects systemic (Inhalation) | Chronic effects local (Inhalation) | Chronic effects systemic (Inhalation) |
|---------------------------|----------------------------------|-------------------------------------|------------------------------------|---------------------------------------|
| Glycerin<br>56-81-5 (>95) |                                  |                                     | DNEL = 56mg/m <sup>3</sup>         |                                       |

#### Predicted No Effect Concentration (PNEC)

See values below.

| Component                 | Fresh water      | Fresh water sediment        | Water Intermittent | Microorganisms in sewage treatment | Soil (Agriculture)        |
|---------------------------|------------------|-----------------------------|--------------------|------------------------------------|---------------------------|
| Glycerin<br>56-81-5 (>95) | PNEC = 0.885mg/L | PNEC = 3.3mg/kg sediment dw | PNEC = 8.85mg/L    | PNEC = 1000mg/L                    | PNEC = 0.141mg/kg soil dw |

| Component | Marine water | Marine water | Marine water | Food chain | Air |
|-----------|--------------|--------------|--------------|------------|-----|
|-----------|--------------|--------------|--------------|------------|-----|

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|                             |                      |                                 |                     |  |  |
|-----------------------------|----------------------|---------------------------------|---------------------|--|--|
|                             |                      | <b>sediment</b>                 | <b>intermittent</b> |  |  |
| Glycerin<br>56-81-5 ( >95 ) | PNEC =<br>0.0885mg/L | PNEC = 0.33mg/kg<br>sediment dw |                     |  |  |

## 8.2. Exposure controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location.

### Personal protective equipment

#### Eye Protection

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

#### Hand Protection

Protective gloves

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments        |
|----------------|-------------------|-----------------|-------------|-----------------------|
| Natural rubber | See manufacturers | -               | EN 374      | (minimum requirement) |
| Nitrile rubber | recommendations   |                 |             |                       |
| Neoprene       |                   |                 |             |                       |
| PVC            |                   |                 |             |                       |

#### Skin and body protection

Long sleeved clothing.

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 compatability, 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

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

#### 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.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

#### Physical State

Very viscous Liquid

#### Appearance

Clear

#### Odor

Slight

#### Odor Threshold

No data available

#### Melting Point/Range

18 °C / 64.4 °F

#### Softening Point

No data available

#### Boiling Point/Range

290 °C / 554 °F

#### Flammability (liquid)

No data available

#### Flammability (solid,gas)

Not applicable

Liquid

#### Explosion Limits

**Lower** 2.7 vol %

**Upper** 19 vol %

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|  |                          |  |
|--|--------------------------|--|
| <b>Flash Point</b>                             | 160 °C / 320 °F          | <b>Method</b> - No information available |
| <b>Autoignition Temperature</b>                | 400 °C / 752 °F          |  |
| <b>Decomposition Temperature</b>               | > 290°C                  |  |
| <b>pH</b>                                      | 5                        | 100 g/L aq.sol                           |
| <b>Viscosity</b>                               | 1069 mPa.s at 20 °C      |  |
| <b>Water Solubility</b>                        | >500 g/L (20°C)          |  |
| <b>Solubility in other solvents</b>            | No information available |  |
| <b>Partition Coefficient (n-octanol/water)</b> |                          |  |
| <b>Component</b>                               | <b>log Pow</b>           |  |
| Glycerin                                       | -1.75                    |  |
| <b>Vapor Pressure</b>                          | 0.003 mbar @ 50 °C       |  |
| <b>Density / Specific Gravity</b>              | 1.261                    |  |
| <b>Bulk Density</b>                            | Not applicable           | Liquid                                   |
| <b>Vapor Density</b>                           | 3.17                     | (Air = 1.0)                              |
| <b>Particle characteristics</b>                | Not applicable (liquid)  |  |

## 9.2. Other information

|                          |                          |
|--------------------------|--------------------------|
| <b>Molecular Formula</b> | C3 H8 O3                 |
| <b>Molecular Weight</b>  | 92.09                    |
| <b>Evaporation Rate</b>  | No information available |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

### 10.2. Chemical stability

Hygroscopic.

### 10.3. Possibility of hazardous reactions

|                                 |  |
|---------------------------------|--|
| <b>Hazardous Polymerization</b> | Hazardous polymerization does not occur. |
| <b>Hazardous Reactions</b>      | None under normal processing.            |

### 10.4. Conditions to avoid

Incompatible products. Excess heat.

### 10.5. Incompatible materials

Strong oxidizing agents.

### 10.6. Hazardous decomposition products

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

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

#### (a) acute toxicity;

|                   |  |
|-------------------|--|
| <b>Oral</b>       | Based on available data, the classification criteria are not met |
| <b>Dermal</b>     | Based on available data, the classification criteria are not met |
| <b>Inhalation</b> | Based on available data, the classification criteria are not met |

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|-----------|-----------|-------------|-----------------|
|-----------|-----------|-------------|-----------------|

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|          |                     |                      |                              |
|----------|---------------------|----------------------|------------------------------|
| Glycerin | 12600 mg/kg ( Rat ) | > 10 g/kg ( Rabbit ) | > 2.75 mg/L/4h ( Rat )(mist) |
|----------|---------------------|----------------------|------------------------------|

- (b) **skin corrosion/irritation;** Based on available data, the classification criteria are not met
- (c) **serious eye damage/irritation;** Based on available data, the classification criteria are not met
- (d) **respiratory or skin sensitization;**  
**Respiratory** Based on available data, the classification criteria are not met  
**Skin** Based on available data, the classification criteria are not met
- (e) **germ cell mutagenicity;** Based on available data, the classification criteria are not met
- (f) **carcinogenicity;** Based on available data, the classification criteria are not met  
There are no known carcinogenic chemicals in this product
- (g) **reproductive toxicity;** Based on available data, the classification criteria are not met
- (h) **STOT-single exposure;** Based on available data, the classification criteria are not met
- (i) **STOT-repeated exposure;** Based on available data, the classification criteria are not met  
**Target Organs** None known.
- (j) **aspiration hazard;** Based on available data, the classification criteria are not met
- Symptoms / effects,both acute and delayed** 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.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

| Component | Freshwater Fish                                      | Water Flea | Freshwater Algae |
|-----------|--|------------|------------------|
| Glycerin  | LC50: 51 - 57 mL/L, 96h static (Oncorhynchus mykiss) |            |                  |

**12.2. Persistence and degradability** Readily biodegradable  
**Persistence** Persistence is unlikely.

**12.3. Bioaccumulative potential** Bioaccumulation is unlikely

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| Component | log Pow | Bioconcentration factor (BCF) |
|-----------|---------|-------------------------------|
| Glycerin  | -1.75   | No data available             |

## 12.4. Mobility in soil

The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

## 12.5. Results of PBT and vPvB assessment

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB).

## 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 Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. 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 Catalog, 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

### IMDG/IMO

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### ADR

Not regulated

#### 14.1. UN number

#### 14.2. UN proper shipping name

#### 14.3. Transport hazard class(es)

#### 14.4. Packing group

### IATA

Not regulated



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**14.1. UN number**

**14.2. UN proper shipping name**

**14.3. Transport hazard class(es)**

**14.4. Packing group**

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** 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 No  | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|-----------|---------|-----------|--------|-----|-------|------|----------|------|------|
| Glycerin  | 56-81-5 | 200-289-5 | -      | -   | X     | X    | KE-29297 | X    | X    |

| Component | CAS No  | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|-----------|---------|------|---|-----|------|------|-------|-------|
| Glycerin  | 56-81-5 | X    | ACTIVE  | X   | -    | X    | X     | X     |

**Legend:** X - Listed '-' - Not Listed

**KECL** - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

**Authorisation/Restrictions according to EU REACH** Not applicable

| Component | CAS No  | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|-----------|---------|---|---|---|
| Glycerin  | 56-81-5 | -   | -   | -   |

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

| Component | CAS No  | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements |
|-----------|---------|---|--|
| Glycerin  | 56-81-5 | Not applicable  | Not applicable   |

**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 .

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## National Regulations

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

**WGK Classification** See table for values

| Component | Germany - Water Classification (AwSV) | Germany - TA-Luft Class |
|-----------|---------------------------------------|-------------------------|
| Glycerin  | WGK1                                  |                         |

## 15.2. Chemical safety assessment

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

## SECTION 16: OTHER INFORMATION

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

#### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/MDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

#### Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

#### Training Advice

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

**Creation Date** 07-Jan-2010

**Revision Date** 18-Oct-2023

**Revision Summary** Not applicable.

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**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 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**