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# SAFETY DATA SHEET

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## 1. Section 1. Identification of the substance/mixture and of the company/undertaking

### 1.1. Product Identifier:

Trade name or designation of mixture: **Lipase immo KIT**

EC Number: Not applicable.

Registration Number: A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.

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

Identified uses: Immobilized Enzymes to be used as biocatalyst in biotransformations for the manufacture of Chemicals and substances.

Uses advised against: None known.

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

Supplier: Purolite Ltd.  
Llantrisant Business Park,  
Llantrisant, Wales, UK CF72 8LF  
Tel:+44 1443 229334  
Fax:+44 1443 227073

Manufacturer: Purolite S.R.L. Purolite  
Str.Aleea Uzinei nr.11, 150 Monument Road  
505700 Victoria, Bala Cynwyd, PA 19004 USA  
Judetul Brasov,  
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Tel:+40 2682 43004 Tel:+1 610 668 9090  
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Purolite (China) Co. Limited  
Qianlong Economic Development Zone,  
Qianyuan Town, Deqing County,  
Huzhou City, Zhejiang, China 313216  
Tel:+86 572 8422908  
Fax:+86 572 8425345

Contact Person: MSDS Coordinator

Email: [msds@purolite.com](mailto:msds@purolite.com)

1.4. Emergency +1 866 387 7344  
Telephone Number: +1 760 602 8703

## 2. Section 2. Hazards identification

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

### 2.1 Classification of the substance or mixture

#### Classification according to Directive 67/548/EEC or 1999/45/EC as amended

**Classification** R42

The full text for all R-phrases is displayed in section 16.

#### 2.1.1 Classification according to Regulation (EC) No 1272/2008 as amended

##### Health hazards

Respiratory sensitization Category 1 H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

##### Hazard summary

Physical hazards Not classified for physical hazards.

Health hazards May cause sensitisation by inhalation.

Environmental hazards Not classified for hazards to the environment.

Specific hazards None known.

Main symptoms Difficulty in breathing.

### 2.2 Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Crosslinked copolymer, Lipase, Water

##### Hazard pictograms



**Signal word** Danger

##### Hazard statement(s)

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

##### Precautionary Statement(s)

##### Prevention

P261 Avoid breathing dust.

P284 Wear respiratory protection.

##### Response

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.

##### Storage

Store away from incompatible materials.

##### Disposal

P501 Dispose of contents/container in accordance with local/regional/national /international regulations.

**Supplemental label information** None.

**2.3 Other hazards** Not assigned.

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### 3. Section 3. Composition/information on ingredients

**3.1 Substance** Not applicable.

#### 3.2 Mixture

##### General Information

**3.2.1** Not applicable.

<b>3.2.2 Chemical name</b>	<b>%</b>	<b>N° CAS / N° CE</b>	<b>REACH Registration No.</b>	<b>Index No.</b>	<b>Notes</b>
Crosslinked copolymer	≤ 94	-	-	-	-
<b>Classification:</b>	<b>DSD:</b>	-			
	<b>CLP:</b>	-			
Lipase	≥ 1	9001-62-1 232-619-9			
<b>Classification:</b>	<b>DSD:</b>	Xn, R42/43			
	<b>CLP:</b>	Resp. Sens. 1, H334; Skin Sens. 1, H317			
Water	< 5	7732-18-5 231-791-2	-	-	-
<b>Classification:</b>	<b>DSD:</b>	-			
	<b>CLP:</b>	-			

**DSD: Directive 67/548/EEC.**

**CLP: Regulation No. 1272/2008.**

#### Composition comments

Full text for all R- and H- phrases is displayed in section 16. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

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### 4. Section 4. First aid measures

#### General Information

If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

#### 4.1 Description of first aid measures

##### 4.1.1 Inhalation

-If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTR or doctor/physician.

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#### 4.1.2 Skin contact

-Wash off immediately with soap and plenty of water. If irritation persists get medical attention.

#### 4.1.3 Eye contact

-Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. If eye irritation persists, get medical advice/attention.

#### 4.1.4 Ingestion

-Rinse mouth thoroughly. Never give liquid to an unconscious person. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention if any discomfort continues.

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

-May cause allergy or asthma symptoms or breathing difficulties if inhaled. Eye contact: Contact may cause irritation with redness, tearing, pain, and/or blurred vision.

#### 4.3 Indication of any immediate medical attention and special treatment

-Treat symptomatically.

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### 5. Section 5. Fire-fighting measures

#### General fire hazards

-The product is not flammable.

#### 5.1 Extinguishing media

##### -Suitable extinguishing media

-Extinguishing with foam, carbon dioxide, dry powder or water fog.

##### -Unsuitable extinguishing media

-None known.

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

-By heating and fire, harmful vapours/gases may be formed.

#### 5.3 Advice for fire fighters

-Special protective equipment for fire fighters

-Wear self-contained breathing apparatus and protective clothing.

-Special fire fighting procedures

-In the event of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.

#### Specific methods

Use standard firefighting procedures and consider the hazards of other involved materials.

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### 6. Section 6. Accidental release measures

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

##### 6.1.1 -For non-emergency personnel

-Keep unnecessary personnel away. Avoid contact with skin and eyes.

##### 6.1.2 -For emergency responders

-Keep unnecessary personnel away. Wear protective clothing as described in Section 8 of this safety data sheet.

#### 6.2 Environmental precautions

-Prevent further leakage or spillage if safe to do so. Cover with plastic sheet to prevent spreading. Do not allow to

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enter drains, sewers or watercourses.

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

-Avoid the generation of dusts during clean-up.

-Large Spills: Dike the spilled material, where this is possible. Sweep or shovel up material and place in a clearly labeled container for waste. For waste disposal, see Section 13 of the SDS.

-Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal.

-Never return spills to original containers for re-use.

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

-For personal protection, see section 8 of the SDS. For waste disposal, see Section 13 of the SDS.

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## **7. Section 7. Handling and storage**

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

-Use with adequate ventilation. Wear protective clothing as described in Section 8 of this safety data sheet. Observe good industrial hygiene practices.

### **7.2 Precautions for safe storage**

-Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials (See Section 10).

### **7.3 Specific end use(s)**

-Ion Exchange, Absorbent and/or Catalyst

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## **8. Section 8. Exposure controls/personal protection**

### **8.1 Control parameters**

#### **8.1.1 -Occupational exposure limits**

-No exposure limits noted for ingredient(s).

#### **8.1.2 -Biological limit values**

-No biological exposure limits noted for the ingredient(s).

#### **8.1.3 Recommended monitoring procedures**

-Follow standard monitoring procedures.

#### **8.1.4 Derived no-effect level (DNEL)**

-Not available.

#### **Predicted no effect concentrations (PNECs)**

-Not available.

### **8.2 Exposure controls**

#### **8.2.1 -Appropriate engineering controls**

-Provide adequate ventilation.

#### **8.2.2 -Individual protection measures, such as personal protective equipment**

-General information

-Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

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-Eye/face protection

-Wear safety glasses with side shields (or goggles).

-Skin protection

-Hand protection

-Protective gloves should be worn to prevent skin contact.

-SPECIFIC RECOMMENDATIONS. Breakthrough time: > 10 min (EN 374-3 Class 1). Suitable gloves can be recommended by the glove supplier.

-Other

-Wear appropriate clothing to prevent repeated or prolonged skin contact.

-Respiratory protection

-The risk of inhalation of dust must be minimised as much as possible. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Respirator type: Air-purifying respirator with an appropriate, government approved (where applicable), air-purifying filter, cartridge or canister.

-Thermal hazards

-None.

-Hygiene measures

-Do not breathe dust. Avoid contact with eyes. Handle in accordance with good industrial hygiene and safety practices. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

### 8.2.3 Environmental exposure controls

-Environmental manager must be informed of all major spillages.

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## 9. Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

**Appearance:** Beads

**Physical state:** Solid

**Form:** Bead

**Colour:** Off-white

**Odour:** Odourless.

**Odour threshold:** Not available.

**pH:** Neutral.

**Melting point/freezing point:** Not available.

**Boiling point, initial boiling point, and boiling range:** Not available.

**Flash point:** Not available.

**Evaporation rate:** Not available.

**Flammability (solid,gas):** Not available.

**Upper/lower flammability or explosive limits**

**-Flammability limit-lower (%):** Not available.

**-Flammability limit-upper (%):** Not available.

**Vapour pressure:** Not available.  
**Vapour density:** Not available.  
**Relative density:** 1.15  
**Solubility(ies):** Not available.  
**Partition coefficient n-octanol/water:** Not available.  
**Decomposition temperature:** Not available.  
**Viscosity:** Not available.  
**Percent volatile:** Not available.  
**Explosive properties:** Not explosive.  
**Oxidising properties:** Not oxidising.

## 9.2 Other Information

-No relevant additional information available.

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## 10. Section 10. Stability and reactivity

### 10.1 Reactivity

-The product is stable and non reactive under normal conditions of use, storage and transport.

### 10.2 Chemical Stability

-Material is stable under normal conditions.

### 10.3 Possibility of hazardous reactions

-No dangerous reaction known under conditions of normal use.

### 10.4 Conditions to avoid

-Heat, sparks, flames elevated temperatures. Contact with incompatible materials.

### 10.5 Incompatible materials

-Strong oxidising agents. Nitric acid.

### 10.6 Hazardous decomposition products

-Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

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## 11. Section 11. Toxicological information

### General Information

-Occupational exposure to the substance or mixture may cause adverse effects.

### Information on likely routes of exposure

#### -Inhalation

-May cause allergy or asthma symptoms or breathing difficulties if inhaled. Prolonged inhalation may be harmful.

#### -Skin contact

-May cause mild skin irritation.

#### -Eye contact

-May cause eye irritation on direct contact.

#### -Ingestion

-May cause discomfort if swallowed.

### Symptoms

-Difficulty in breathing. Wheezing. Shortness of breath. Irritation of eyes and mucous membranes.

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## 11.1 Information on toxicological effects

### 11.1.1 Not applicable.

## 11.2 Mixtures

**Acute toxicity** May cause discomfort if swallowed.

Components	Species	Test results
Lipase (CAS 9001-62-1)		
<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg

### **Skin corrosion/irritation**

-Due to partial or complete lack of data the classification is not possible.

### **Serious eye damage/eye irritation**

-Due to partial or complete lack of data the classification is not possible.

### **Respiratory sensitization**

-May cause allergy or asthma symptoms or breathing difficulties if inhaled.

### **Skin sensitization**

-Not classified.

### **Germ cell mutagenicity**

-Not classified.

### **Carcinogenicity**

-Due to partial or complete lack of data the classification is not possible.

### **-Reproductivity toxicity**

-Not classified.

### **Specific target organ toxicity - single exposure**

-Due to partial or complete lack of data the classification is not possible.

### **Specific target organ toxicity - repeated exposure**

-Due to partial or complete lack of data the classification is not possible.

### **Aspiration hazard**

-Not classified.

### **Mixture versus substance information**

-Not information available.

### **-Other information**

-No other specific acute or chronic health impact noted.

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## 12. Section 12. Ecological information

### 12.1 Toxicity

-The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Components	Species	Test results
Lipase (CAS 9001-62-1)		
<b>Aquatic</b>		



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*Acute*

Algae	EC50	Algae	99 mg/l, 72 hours
Crustacea	EC50	Daphnia magna	> 1000 mg/l, 24 hours
Fish	EC50	Cyprinus carpio	> 1000 mg/l, 96 hours

**12.2 Persistence and degradability**

-No data is available on the degradability of this product.

**12.3 Bioaccumulative potential**

-No data available.

**Partition coefficient n-octanol/water (log Kow)**

-Not available.

**Bioconcentration factor (BCF)**

-Not available.

**12.4 Mobility in soil**

-No data available.

**12.5 Results of PBT and vPvB assessment**

-Not available.

**12.6 Other adverse effects**

-No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

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**13. Section 13. Disposal considerations**

**13.1 Waste treatment methods**

**Residual waste**

-Dispose of in accordance with local regulations.

**Contaminated packaging**

-Empty containers should be taken to an approved waste handling site for recycling or disposal.

**EU waste code**

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

**Disposal methods/information**

-Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/containers in accordance with local/regional/national/international regulations.

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**14. Section 14. Transport information**

**14.1 ADR**

-Not regulated as dangerous goods.

**14.2 RID**

-Not regulated as dangerous goods.

**14.3 ADN**

-Not regulated as dangerous goods.

**14.4 IATA**

-Not regulated as dangerous goods.

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## 14.5 IMDG

-Not regulated as dangerous goods.

## 14.6 Transport in Bulk according to AnnexII of MARPOL 73/78 and the IBC Code

-Not applicable.

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## 15. Section 15: Regulatory information

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

**-Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**  
-Not listed.

**-Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I**  
-Not listed.

**-Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended**  
-Not listed.

**-Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended**  
-Not listed.

**-Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended**  
-Not listed.

**-Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended**  
-Not listed.

**-Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**  
-Not listed.

**-Regulation (EC) No. 1907/2006, REACH Article 59(10). Candidate List**  
-Not listed.

#### Authorisations

**-Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**  
-Not listed.

#### Restrictions on use

**-Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**  
-Not listed.

**-Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended**  
-Not listed.

**-Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended**  
-Not listed.

#### Other EU regulations

**-Directive 2012/18/EU on major accident hazards involving dangerous substances**  
-Not listed.

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

-Not listed.

**Directive 94/33/EC on the protection of young people at work**

-Not listed.

**Other regulations**

-The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

**National regulations**

-Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.

**15.2 Chemical safety assessment**

-No Chemical Safety Assessment has been carried out.

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**16. Section 16. Other information**

**List of abbreviations**

-DNEL: Derived No-Effect Level.

-PNEC: Predicted No-Effect Concentration.

-PBT: Persistent, bioaccumulative and toxic.

-vPvB: Very Persistent and very Bioaccumulative.

**References**

-Not available.

**Information on evaluation method leading to the classification of mixture**

-The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

**Full text of any statements or R-phrases and H-phrases under Sections 2 to 15**

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Full text of R-phrases referred to under sections 2 and 3**

R42 May cause sensitisation by inhalation.

**Training information**

-Follow training instructions when handling this material.

**Further information**

-This mixture is exempted from Registration according to the provisions of Title II and VI and Article 2(9) of REACH.

**Disclaimer**

-The information provided in this safety data sheet is based on current knowledge about the product and current legal requirements and standards. It relates specifically to health, safety and environmental requirements and standards, may not identify all hazards associated with the product or its uses or misuses, does not signify any

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warranty with regard to the properties of the product, and only applies when the product is used for the purposes indicated in section 1. This product is not sold as suitable for other purposes and such other usage may cause risks not mentioned in this safety data sheet.

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