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

1.1 Product identifier

Trade name: Brij® L23

Stock number: A15809
CAS Number: 9002-92-0
NLP Number: 500-002-6

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

Identified use: SU24 Scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Alfa Aesar, A Johnson Matthey Company
Shore Road
Port of Heysham Industrial Park
Heysham Lancashire LA3 2XY
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850008
Email: uktech@alfa.com
www.alfa.com
Informing department: Product safety department

1.4 Emergency telephone number:
Call Carechem 24 at +44 (0) 1865 407333 (English only); +44 (0) 1235 239670 (Multi-language)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

GHS07
Acute Tox. 4 H302 Harmful if swallowed.
Skin Irrit. 2 H315 Causes skin irritation.
Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H335 May cause respiratory irritation.

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

Xn; Harmful
R22: Harmful if swallowed.

Xi; Irritant
R36/37/38: Irritating to eyes, respiratory system and skin.

Information concerning particular hazards

for human and environment:
Not applicable

Other hazards that do not result in classification

No information known.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The substance is classified and labelled according to the CLP regulation.

Hazard pictograms

GHS07

Signal word

Warning

Hazard statements

H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statements

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.
PvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Substances

CAS# Designation: 9002-92-0 Tricosaethylene glycol mono-n-dodecyl ether

Identification number(s):
NLP Number: 500-002-6

SECTION 4: First aid measures

4.1 Description of first aid measures

After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

After skin contact

Rinse immediately with water and soap and rinse thoroughly. Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult doctor. Seek medical treatment.

4.2 Most important symptoms and effects, both acute and delayed

Seek immediate medical advice.

4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.
SECTION 5: Firefighting measures

5.1 Extinguishing media
CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Carbon monoxide and carbon dioxide

5.3 Advice for firefighters
Wear self-contained breathing apparatus.
Wear full protective suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.
No special measures required.
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

6.2 Environmental precautions:
Do not allow product to reach sewage system or water bodies.
Do not allow to enter the ground/soil.

6.3 Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to item 13.
Ensure adequate ventilation.

6.4 Reference to other sections
See Section 7 for information on safe handling
See section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Keep containers tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation/exhaustion at the workplace.

Information about protection against explosions and fires:
No information known.

7.2 Conditions for safe storage, including any incompatibilities
No special requirements.

Storage
Requirements to be met by storerooms and containers:
Store away from oxidising agents.

Further information about storage conditions:
Store in cool, dry conditions in well sealed containers.

7.3 Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Information about protection against explosions and fires:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information:
No data

8.1 Control parameters
Components with critical values that require monitoring at the workplace:
The usual precautionary measures should be adhered to in handling the chemicals.

Additional information:
No data

8.2 Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures should be adhered to in handling the chemicals.
Keep away from foodstuffs, beverages and food.

Breathing equipment:
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

Protection of hands:
Check protective gloves prior to each use for their proper condition.

Material of gloves
Impervious gloves

Penetration time of glove material
Not determined

Eye protection:
Safety glasses
Face protection

Body protection:
Protective work clothing.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:
Waxy solid

Colour:
White

Smell:
Not determined

Odour threshold:
Not determined.

pH-value:
Not applicable.

Change in condition
Melting point/Melting range:
ca 35-40 °C

Boiling point/Boiling range:
Not determined

Sublimation temperature / start:
Not determined

Inflammability (solid, gaseous):
Not determined

Ignition temperature:
Not determined

Decomposition temperature:
Not determined

Self-inflammability:
Not determined

Danger of explosion:
Not determined.

Critical values for explosion:
Lower:
Not determined

Upper:
Not determined

Steam pressure:
Not applicable.

Density:
Not determined

Relative density:
Not determined.
Trade name Brij® L23

SECTION 10: Stability and reactivity

10.1 Reactivity
No information known.

10.2 Chemical stability
Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.

10.3 Possibility of hazardous reactions
Reacts with strong oxidizing agents

10.5 Incompatible materials:
Oxidizing agents

10.6 Hazardous decomposition products:
Carbon monoxide and carbon dioxide

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity:
Harmful if swallowed.
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification:

Oral LD50 1000 mg/kg (rat)

Skin irritation or corrosion:
Causes skin irritation.

Eye irritation or corrosion:
Causes serious eye irritation.

Sensitization:
No sensitizing effect known.

Germ cell mutagenicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:
No effects known.

Specific target organ system toxicity - repeated exposure:
May cause respiratory irritation.

Aspiration hazard:
No effects known.

Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
No further relevant information available.

12.2 Persistence and degradability
No further relevant information available.

12.3 Bioaccumulative potential
No further relevant information available.

12.4 Mobility in soil
No further relevant information available.

Additional ecological information:

General notes:
Water hazard class 1 (Self-assessment): slightly hazardous for water.
Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system.
Avoid transfer into the environment.

12.5 Results of PBT and vPvB assessment
PBT:
Not applicable.

vPvB:
Not applicable.

12.6 Other adverse effects
No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation:
Hand over to disposers of hazardous waste.
Must be specially treated under adherence to official regulations.
Consult state, local or national regulations for proper disposal.

Uncleaned packagings:
Recommendation:
Disposal must be made according to official regulations.

SECTION 14: Transport information

UN-Number
ADR, ADN, IMDG, IATA
Not applicable

14.2 UN proper shipping name
ADR, ADN, IMDG, IATA
Not applicable

14.3 Transport hazard class(es)
ADR, ADN, IMDG, IATA
Class
Not applicable

Packing group
ADR, IMDG, IATA
Not applicable

14.5 Environmental hazards:
Not applicable.

14.6 Special precautions for user
Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
Not applicable.

UN "Model Regulation":
-
**Trade name** Brij® L23

<table>
<thead>
<tr>
<th>Water hazard class:</th>
<th>Water hazard class 1 (Self-assessment): slightly hazardous for water.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other regulations, limitations and prohibitive regulations</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>ELINCS (European List of Notified Chemical Substances)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.</td>
<td>Substance is listed.</td>
</tr>
<tr>
<td>REACH - Pre-registered substances</td>
<td>A Chemical Safety Assessment has not been carried out.</td>
</tr>
<tr>
<td>15.2 Chemical safety assessment:</td>
<td></td>
</tr>
</tbody>
</table>

**SECTION 16: Other information**

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing SDS: Health, Safety and Environmental Department.

Abbreviations and acronyms:

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- GHS: Globally Harmonized System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LD50: Lethal dose, 50 percent
- LC50: Lethal concentration, 50 percent
- vPvB: very Persistent and very Bioaccumulative
- ACGIH: American Conference of Governmental Industrial Hygienists (USA)
- OSHA: Occupational Safety and Health Administration (USA)
- NTP: National Toxicology Program (USA)
- IARC: International Agency for Research on Cancer
- EPA: Environmental Protection Agency (USA)
- Acute Tox. 4: Acute toxicity, Hazard Category 4
- Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
- Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2
- STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3