## Kit Components

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J3161</td>
<td>Triglyceride-Glo™ Assay</td>
</tr>
</tbody>
</table>

Components:

<table>
<thead>
<tr>
<th>Product code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>J315</td>
<td>Glycerol Lysis Solution</td>
</tr>
<tr>
<td>G885</td>
<td>Reductase Substrate</td>
</tr>
<tr>
<td>J316</td>
<td>Kinetic Enhancer</td>
</tr>
<tr>
<td>J317B</td>
<td>Glycerol Detection Solution</td>
</tr>
<tr>
<td>J318</td>
<td>Lipoprotein Lipase</td>
</tr>
<tr>
<td>J324A</td>
<td>Glycerol Standard</td>
</tr>
</tbody>
</table>
1 Identification

Product identifier
Trade name: Glycerol Lysis Solution

Article number: J315
Application of the substance / the mixture For research use only

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: SDS author: ChemicalRegulatory@promega.com
Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable

Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown
Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Trade name: Glycerol Lysis Solution

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components: Not applicable

4 First-aid measures

Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.
Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture
None known
No further relevant information available.
Advice for firefighters No special advice
Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

7 Handling and storage

Handling:
Precautions for safe handling No special measures required.
Information about protection against explosions and fires: The product is not flammable.
Trade name: Glycerol Lysis Solution

Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.

Material of gloves
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information
Appearance:
Form: Fluid
Color: Colorless
Odor: Odorless
Odor threshold: Not determined.

pH-value at 20 °C (68 °F): 3-10

Change in condition
Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: Undetermined.
Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
**Trade name: Glycerol Lysis Solution**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vapor pressure:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Density at 20 °C (68 °F):</strong></td>
<td>1.00132 g/cm³ (8.35602 lbs/gal)</td>
</tr>
<tr>
<td>Relative density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Vapor density:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Evaporation rate:</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Solubility in / Miscibility with Water:</strong></td>
<td>Fully miscible.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td><strong>Viscosity:</strong></td>
<td></td>
</tr>
<tr>
<td>Dynamic at 20 °C (68 °F):</td>
<td>0.0952 mPas</td>
</tr>
<tr>
<td>Kinematic:</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Water:</td>
<td>99.0 %</td>
</tr>
<tr>
<td>VOC content:</td>
<td>0.00 %</td>
</tr>
<tr>
<td>Solids content:</td>
<td>0.0 %</td>
</tr>
<tr>
<td>Other information:</td>
<td>No further relevant information available.</td>
</tr>
</tbody>
</table>

**10 Stability and reactivity**

Reactivity: No further relevant information available.

Chemical stability:

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

**Possibility of hazardous reactions:** No dangerous reactions known.

**Conditions to avoid:** No further relevant information available.

**Incompatible materials:** No further relevant information available.

**Hazardous decomposition products:** No dangerous decomposition products known.

**11 Toxicological information**

Information on toxicological effects:

**Acute toxicity:**

**LD/LC50 values that are relevant for classification:** No data available

**Primary irritant effect:**

**on the skin:** No irritant effect.

**on the eye:** No irritating effect.

**Sensitization:** No sensitizing effects known.

**Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations.

**Carcinogenic categories**

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>7647-01-0 hydrogen chloride</td>
<td>3</td>
</tr>
</tbody>
</table>

| NTP (National Toxicology Program)                  |                     |
| None of the ingredients are listed.                |                     |

| OSHA-Ca (Occupational Safety & Health Administration) |                     |
| None of the ingredients are listed.                 |                     |

(Contd. on page 5)
12 Ecological information

**Toxicity**

**Aquatic toxicity:**
Not available
No further relevant information available.

**Persistence and degradability**
Not available
No further relevant information available.

**Bioaccumulative potential**
Not known
No further relevant information available.

**Mobility in soil**
No further relevant information available.

**Ecotoxicological effects:**

**Remark:** Not available

**Additional ecological information:**

**General notes:**
Not available.
Not known to be hazardous to water.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects**
No further relevant information available.

13 Disposal considerations

**Waste treatment methods**

**Recommendation:**
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

| UN-Number DOT, ADR, ADN, IMDG, IATA | Not hazardous for transportation Not applicable |
| UN proper shipping name DOT, ADR, ADN, IMDG, IATA | None Not applicable |
| Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class | None Not applicable |
| Packing group DOT, ADR, IMDG, IATA | None Not applicable |
| Environmental hazards: | Not applicable. |
# 15 Regulatory information

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

**Sara**

**Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

**TSCA (Toxic Substances Control Act) Inventory:**
All ingredients are listed.

**Hazardous Air Pollutants**
7647-01-0 hydrogen chloride

**Proposition 65**

**Chemicals known to cause cancer:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

**Cancerogenity categories**

**EPA (Environmental Protection Agency)**
None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**
7647-01-0 hydrogen chloride A4

**NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

**GHS label elements** Not applicable

**Signal word** Not applicable

**Hazard statements** Not applicable

**Water hazard class:** Generally not hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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**16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Trade name: Glycerol Lysis Solution

Department issuing SDS:
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 02/19/2020 / -

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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

* Data compared to the previous version altered.
# 1 Identification

**Product identifier**
*Trade name: Reductase Substrate*

**Article number:** G885  
*Application of the substance / the mixture For research use only*

**Details of the supplier of the safety data sheet**
*Manufacturer/Supplier:*
Promega Corporation  
2800 Woods Hollow Road  
Madison, WI 53711  
U.S.A.  
1-800-356-9526 or (608)-274-4330

**Information department:** SDS author: ChemicalRegulatory@promega.com  
**Emergency telephone number:**  
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300  
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

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# 2 Hazard(s) identification

**Classification of the substance or mixture**

*GHS07*

Acute Tox. 4  
H312 Harmful in contact with skin.

Flam. Liq. 4  
H227 Combustible liquid.

**Label elements**

*GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS).  
*Hazard pictograms* GHS07  
*Signal word* Warning

**Hazard-determining components of labeling:**

dimethyl sulfoxide

**Hazard statements**  
Combustible liquid.  
Harmful in contact with skin.

**Precautionary statements**

Keep away from flames and hot surfaces. – No smoking.  
Wear protective gloves/protective clothing/eye protection/face protection.  
If on skin: Wash with plenty of water.  
Call a poison center/doctor if you feel unwell.  
Take off contaminated clothing and wash it before reuse.  
In case of fire: Use for extinction: CO2, powder or water spray.  
Store in a well-ventilated place. Keep cool.

(Contd. on page 2)
Trade name: Reductase Substrate

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

Classification system:
NFPA ratings (scale 0 - 4)
Health = 2
Fire = 2
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = 2
Fire = 2
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Combustible

Target Organ(s):
Dermal hazard (Cutaneous hazard)
Risk of damage to eyes
Other hazards

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

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:
67-68-5 dimethyl sulfoxide 15-20%

Additional information: For the wording of the listed risk phrases refer to section 15.

4 First-aid measures

Description of first aid measures
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents: Use fire fighting measures that suit the environment.

Special hazards arising from the substance or mixture
None
No further relevant information available.
**6 Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**
- Remove persons from danger area.
- Wear protective clothing.

**Environmental precautions:**
- Dilute with plenty of water.
- Do not allow to enter sewers/surface or ground water.

**Methods and material for containment and cleaning up:**
- Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

**Reference to other sections**
- See Section 7 for information on safe handling.
- See Section 13 for disposal information.

**7 Handling and storage**

**Handling:**

**Precautions for safe handling**
- No special precautions are necessary if used correctly.

**Information about protection against explosions and fires:**
- No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:**
- No special requirements.

**Information about storage in one common storage facility:**
- Not required.

**Further information about storage conditions:**
- None.

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

**8 Exposure controls/personal protection**

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

<table>
<thead>
<tr>
<th>Component</th>
<th>Limit Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>67-68-5 dimethyl sulfoxide</td>
<td>WEEL Long-term value: 250 ppm</td>
</tr>
</tbody>
</table>

**Additional information:**
- The lists that were valid during the creation were used as basis.

**Exposure controls**

**Personal protective equipment:**

**General protective and hygienic measures:**
- Wash hands before breaks and at the end of work.

**Breathing equipment:**
- Not required.

**Protection of hands:**

**Protective gloves**
- Select the glove material considering penetration time, rate of diffusion and degradation time.
- It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

**Material of gloves**
- 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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Safety Data Sheet
acc. to OSHA HCS

Printing date 02/19/2020
Reviewed on 02/19/2020

Trade name: Reductase Substrate

Eye protection: Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information

Appearance:
Form: Fluid
Color: Colorless
Odor: Not determined
Odor threshold: Not determined.

Change in condition
Melting point/Melting range: 18.45 °C (65.2 °F)
Boiling point/Boiling range: 189 °C (372.2 °F)
Flash point: > 60 °C (> 140 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 270 °C (518 °F)
Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: 1.8 Vol %
Upper: Zers Vol %

Vapor pressure at 20 °C (68 °F): 2.5 hPa (1.9 mm Hg)

Density: Not determined.
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.

Solubility in / Miscibility with
Water: Fully miscible.

Partition coefficient (n-octanol/water): Not determined.

Viscosity:
Dynamic: Not determined.
Kinematic: Not determined.

Organic solvents: 20.0 %
Water: 58.8 %
VOC content: 20.00 %

Solids content: 0.0 %
Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.

Chemical stability

Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Trade name: Reductase Substrate

Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity:

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>67-68-5 dimethyl sulfoxide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD50</td>
</tr>
<tr>
<td>Dermal LD50</td>
</tr>
<tr>
<td>Irritation of eyes acute</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

Primary irritant effect:
on the skin: No data available.
on the eye: No data available.
Sensitization: No sensitizing effects known.

Additional toxicological information:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

NTP (National Toxicology Program)
None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:
Remark: Not available

Additional ecological information:
General notes: No data available.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

(Contd. on page 6)
13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number
DOT, ADR, ADN, IMDG, IATA
Not hazardous for transportation
Not applicable

UN proper shipping name
DOT, ADR, ADN, IMDG, IATA
None
Not applicable

Transport hazard class(es)
DOT, ADR, ADN, IMDG, IATA
Class
None
Not applicable

Packing group
DOT, ADR, IMDG, IATA
None
Not applicable

Environmental hazards:
Marine pollutant:
No

Special precautions for user
Not applicable.

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

UN "Model Regulation":
Not applicable

15 Regulatory information

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

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:
67-68-5 dimethyl sulfoxide

Hazardous Air Pollutants
None of the ingredients are listed.
Trade name: Reductase Substrate

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

GHS label elements
The product is classified and labeled according to the Globally Harmonized System (GHS).

Signal word
Warning

Hazard-determining components of labeling:
dimethyl sulfoxide

Hazard statements
Combustible liquid.
Harmful in contact with skin.

Precautionary statements
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin: Wash with plenty of water.
Call a poison center/doctor if you feel unwell.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS:
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 02/19/2020 / -
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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Acute Tox. 4: Acute toxicity – Category 4

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Kinetic Enhancer

Article number: J316
Application of the substance / the mixture For research use only

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: SDS author: ChemicalRegulatory@promega.com

Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

GHS05 Corrosion

Eye Dam. 1  H318  Causes serious eye damage.

Flam. Liq. 4  H227  Combustible liquid.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms GHS05
Signal word Danger

Hazard-determining components of labeling:
Polyglycol ether

Hazard statements
Combustible liquid.
Causes serious eye damage.

Precautionary statements
Keep away from flames and hot surfaces. – No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.

(Contd. on page 2)
Dispose of contents/container in accordance with local/regional/national/international regulations.

Classification system:
NFPA ratings (scale 0 - 4)
Health = 3
Fire = 2
Reactivity = 0

HMIS-ratings (scale 0 - 4)
Health = *3
Fire = 2
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200):
Toxic
Highly Toxic
Irritant
Combustible

Primary route(s) of entry: Dermal
Target Organ(s): Not applicable or unknown
Other hazards

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

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

<table>
<thead>
<tr>
<th>Dangerous components:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>68131-40-8 Polyglycol ether</td>
<td>5-10%</td>
</tr>
<tr>
<td>67-68-5 dimethyl sulfoxide</td>
<td>5-10%</td>
</tr>
</tbody>
</table>

4 First-aid measures

Description of first aid measures
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:
Most important symptoms and effects, both acute and delayed
None

Indication of any immediate medical attention and special treatment needed
No further relevant information available.
Safety Data Sheet  
acc. to OSHA HCS

Trade name: Kinetic Enhancer

(Contd. of page 2)

5 Fire-fighting measures

**Extinguishing media**

**Suitable extinguishing agents:** Use fire fighting measures that suit the environment.

**Special hazards arising from the substance or mixture**

None known

No further relevant information available.

**Advice for firefighters**

No special advice.

6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Remove persons from danger area.

Wear protective clothing.

**Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

**Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Ensure adequate ventilation.

**Reference to other sections**

See Section 7 for information on safe handling.

See Section 13 for disposal information.

7 Handling and storage

**Handling:**

**Precautions for safe handling**

Ensure good ventilation/exhaustion at the workplace.

Prevent formation of aerosols.

**Information about protection against explosions and fires:** No special measures required.

**Conditions for safe storage, including any incompatibilities**

**Storage:**

**Requirements to be met by storerooms and receptacles:** No special requirements.

**Information about storage in one common storage facility:** Not required.

**Further information about storage conditions:** Keep receptacle tightly sealed.

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

8 Exposure controls/personal protection

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituent has no known exposure limits.

**67-68-5 dimethyl sulfoxide**

**WEEL Long-term value:** 250 ppm

**Additional information:** The lists that were valid during the creation were used as basis.
Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.
Do not eat or drink while working.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:
Protective gloves
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive 89/686/EEC and the standard EN 374 derived from it.

Material of gloves
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection:
Safety glasses
Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Fluid
Color: Colorless
Odor: Not determined
Odor threshold: Not determined.

pH-value at 20 °C (68 °F): 3-10

Change in condition
Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: > 60 °C (> 140 °F)

Flammability (solid, gaseous): Not applicable.

Ignition temperature: 270 °C (518 °F)
Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.
Trade name: Kinetic Enhancer

Density at 20 °C (68 °F): 0.99 g/cm³ (8.26155 lbs/gal)
Relative density Not determined.
Vapor density Not determined.
Evaporation rate Not determined.
Solubility in / Miscibility with Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
  Dynamic: Not determined.
  Kinematic: Not determined.
Organic solvents: 7.4 %
Water: 82.3 %
VOC content: 7.43 %
Solids content: 0.1-0.5 %
Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials No further relevant information available.
Hazardous decomposition products No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: No data available.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations: Irritant

Carcinogenic categories
IARC (International Agency for Research on Cancer)
None of the ingredients are listed.
NTP (National Toxicology Program)
None of the ingredients are listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.
12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:
Remark: Not available

Additional ecological information:
General notes:
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.

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

Other adverse effects
No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

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

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number
DOT, ADR, IMDG, IATA UN3082

UN proper shipping name
DOT Environmentally hazardous substance, liquid, n.o.s.
ADR 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
IMDG, IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
## Transport hazard class(es)

**DOT, IMDG**

<table>
<thead>
<tr>
<th>Class</th>
<th>9 Miscellaneous dangerous substances and articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>9</td>
</tr>
</tbody>
</table>

**ADR**

<table>
<thead>
<tr>
<th>Class</th>
<th>9 (M6) Miscellaneous dangerous substances and articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>9</td>
</tr>
</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>Class</th>
<th>9 Miscellaneous dangerous substances and articles</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>9</td>
</tr>
</tbody>
</table>

### Packing group

**DOT, ADR, IMDG, IATA**

| Packing group | III |

### Environmental hazards:

**Special marking (ADR):** Symbol (fish and tree)

**Special marking (IATA):** Symbol (fish and tree)

### Special precautions for user

**Warning:** Miscellaneous dangerous substances and articles

**Hazard identification number (Kemler code):** 90

**EMS Number:** F-A,S-F

**Stowage Category:** A

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**Not applicable.**

### Transport/Additional information:

**ADR**

<table>
<thead>
<tr>
<th>Excepted quantities (EQ)</th>
<th>Code: E1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum net quantity per inner packaging: 30 ml</td>
<td></td>
</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
<td></td>
</tr>
</tbody>
</table>

**IMDG**

<table>
<thead>
<tr>
<th>Limited quantities (LQ)</th>
<th>5L</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Excepted quantities (EQ)</th>
<th>Code: E1</th>
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<tbody>
<tr>
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</tr>
<tr>
<td>Maximum net quantity per outer packaging: 1000 ml</td>
<td></td>
</tr>
</tbody>
</table>
### 15 Regulatory information

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

**Sara**

**Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

**TSCA (Toxic Substances Control Act) Inventory:**
All ingredients are listed.

**Hazardous Air Pollutants**
None of the ingredients are listed.

**Proposition 65**

**Chemicals known to cause cancer:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

#### Cancerogenity categories

**EPA (Environmental Protection Agency)**
None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

**Signal word** Danger

**Hazard-determining components of labeling:**
Polyglycol ether

**Hazard statements**
Combustible liquid.
Causes serious eye damage.

**Precautionary statements**
Keep away from flames and hot surfaces.—No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
In case of fire: Use for extinction: CO2, powder or water spray.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

**Water hazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:**
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

**Date of preparation / last revision** 02/19/2020 / -

**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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Eye Dam. 1: Serious eye damage/eye irritation – Category 1

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Glycerol Detection Solution

Article number: J317B
Application of the substance / the mixture For research use only

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: SDS author: ChemicalRegulatory@promega.com
Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture

GHS07

Eye Irrit. 2A H319 Causes serious eye irritation.

Label elements
GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
Hazard pictograms GHS07
Signal word Warning

Hazard statements
Causes serious eye irritation.

Precautionary statements
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Classification system:
NFPA ratings (scale 0 - 4)
Health = 2
Fire = 0
 Reactivity = 0

(Contd. on page 2)
Trade name: Glycerol Detection Solution

HMIS-ratings (scale 0 - 4)
Health = *2
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components:
- 68131-40-8 Polyglycol ether 1-5%

4 First-aid measures

Description of first aid measures
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture
None known
No further relevant information available.

Advice for firefighters No special advice

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Remove persons from danger area.
Wear protective clothing.
Trade name: Glycerol Detection Solution

Environmental precautions:
Dilute with plenty of water.
Do not allow to enter sewers/surface or ground water.

Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

7 Handling and storage

Handling:
Precautions for safe handling No special precautions are necessary if used correctly.
Information about protection against explosions and fires: The product is not flammable.

Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at
the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures: Wash hands before breaks and at the end of work.
Breathing equipment: Not required.
Protection of hands:
Protective gloves
Select the glove material considering penetration time, rate of diffusion and degradation time.
It is recommended that the selected protective gloves be tested and approved under NIOSH or EU Directive
89/686/EEC and the standard EN 374 derived from it.
Material of gloves
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. As the product is a preparation of several substances, the resistance
of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Use equipment for eye protection tested and approved under government NIOSH standards.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance: Fluid
50.0.8

Color: Colorless
Odor: Odorless
Odor threshold: Not determined.

Change in condition
Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: Not determined.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.

Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.

Density at 20 °C (68 °F): 1.02 g/cm³ (8.5119 lbs/gal)
Relative density Not determined.
Vapor density Not determined.
Evaporation rate Not determined.
Solubility in / Miscibility with Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.

Viscosity:
Dynamic at 20 °C (68 °F): 0.0952 mPas
Kinematic: Not determined.
Water: 97.1 %
VOC content: 0.00 %

Solids content: ≥0.5—<0.6 %
Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: No data available.
on the eye: No data available.
Sensitivity: No sensitizing effects known.

Additional toxicological information:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients are listed.

NTP (National Toxicology Program)
None of the ingredients are listed.

OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.

12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:
Remark: Not available

Additional ecological information:
General notes: No data available.

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

Other adverse effects
No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.
Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number
Not hazardous for transportation
Safety Data Sheet  
acc. to OSHA HCS

Trade name: Glycerol Detection Solution

<table>
<thead>
<tr>
<th>DOT, ADR, IMDG, IATA</th>
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<tr>
<td>UN proper shipping name</td>
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<tr>
<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
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<tr>
<td>Transport hazard class(es)</td>
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<td>DOT, ADR, ADN, IMDG, IATA</td>
<td>Not applicable</td>
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<tr>
<td>Class</td>
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<td>Packing group</td>
<td>None</td>
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<tr>
<td>DOT, ADR, IMDG, IATA</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Environmental hazards:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

15 Regulatory information

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

Sara

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings): 
None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:
68131-40-8 Polyglycol ether

Hazardous Air Pollutants
None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.
Safety Data Sheet
acc. to OSHA HCS

Trade name: Glycerol Detection Solution

GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

Signal word Warning

Hazard statements
Causes serious eye irritation.

Precautionary statements
Wash thoroughly after handling.
Wear eye protection / face protection.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing SDS:
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph: (608)274-4330

Date of preparation / last revision 02/19/2020 /

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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists ELINCS: European List of Notified Chemical Substances
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Lipoprotein Lipase

Article number: J318
Application of the substance / the mixture For research use only

Details of the supplier of the safety data sheet
Manufacturer/Supplier: Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: SDS author: ChemicalRegulatory@promega.com

Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable
Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0
HMIS-ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
3 Composition/information on ingredients

Chemical characterization: Mixtures
Description:
The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.

Dangerous components: Not applicable

4 First-aid measures

Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.

Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.

Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture
None known
No further relevant information available.

Advice for firefighters: No special advice

Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures: Not required.
Environmental precautions: Dilute with plenty of water.

Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

7 Handling and storage

Handling:
Precautions for safe handling: No special measures required.

Information about protection against explosions and fires: The product is not flammable.
Conditions for safe storage, including any incompatibilities

Storage:
Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at
the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
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. As the product is a preparation of several substances, the resistance
of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Fluid
Color: Colorless
Odor: Odorless
Odor threshold: Not determined.

pH-value at 20 °C (68 °F): 3-10

Change in condition
Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
Trade name: Lipoprotein Lipase

Vapor pressure: Not determined.
Density at 20 °C (68 °F): 1.03 g/cm³ (8.59535 lbs/gal)
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
Dynamic at 20 °C (68 °F): 0.0952 mPas
Kinematic: Not determined.
Water: 98.2 %
VOC content: 0.00 %
Solids content: 1.0 %
Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.
Chemical stability:
Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
Possibility of hazardous reactions: No dangerous reactions known.
Conditions to avoid: No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity:
LD/LC50 values that are relevant for classification: No data available
Primary irritant effect:
on the skin: No irritant effect.
on the eye: No irritating effect.
Sensitization: No sensitizing effects known.
Additional toxicological information:
The product is not subject to classification according to internally approved calculation methods for preparations:
Carcinogenic categories:
IARC (International Agency for Research on Cancer)
None of the ingredients are listed.
NTP (National Toxicology Program)
None of the ingredients are listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients are listed.
12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:
Remark: Not available

Additional ecological information:
General notes:
Not available.
Not known to be hazardous to water.

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

Other adverse effects
No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

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

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

| UN-Number | Not hazardous for transportation |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| UN proper shipping name | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Transport hazard class(es) | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |
| Class | | |
| Packing group | None |
| DOT, ADR, IMDG, IATA | Not applicable |
| Environmental hazards: | Not applicable. |
**Trade name: Lipoprotein Lipase**

<table>
<thead>
<tr>
<th><strong>Special precautions for user</strong></th>
<th>Not applicable.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>UN &quot;Model Regulation&quot;</strong></td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 15 Regulatory information

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

**Sara**

**Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

**Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

**Hazardous Air Pollutants**

None of the ingredients are listed.

**Proposition 65**

**Chemicals known to cause cancer:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

**Cancerogenity categories**

**EPA (Environmental Protection Agency)**

None of the ingredients are listed.

**TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients are listed.

**NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients are listed.

**GHS label elements**

**Signal word** Not applicable

**Hazard statements** Not applicable

**Water hazard class:** Generally not hazardous for water.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Department issuing SDS:**

Promega Corporation

Chemical Regulatory Department
Trade name: Lipoprotein Lipase

2800 Woods Hollow Road
Madison, WI
Ph:(608)274-4330

Date of preparation / last revision 02/19/2020 / -

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)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

* Data compared to the previous version altered.
1 Identification

Product identifier
Trade name: Glycerol Standard

Article number: J324A
Application of the substance / the mixture For research use only

Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Promega Corporation
2800 Woods Hollow Road
Madison, WI 53711
U.S.A.
1-800-356-9526 or (608)-274-4330

Information department: SDS author: ChemicalRegulatory@promega.com
Emergency telephone number:
For Chemical Emergency Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-527-3887 (collect calls accepted)

2 Hazard(s) identification

Classification of the substance or mixture
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements Not applicable
Hazard pictograms Not applicable
Signal word Not applicable
Hazard statements Not applicable
Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0
HMIS-ratings (scale 0 - 4)
Health = 0
Fire = 0
Reactivity = 0
OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable
Target Organ(s): Not applicable or unknown
Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

(Contd. on page 2)
3 Composition/information on ingredients

Chemical characterization: Mixtures
Description: The product is made up of a mixture of non-hazardous components. The exact concentration percentages and components name may be withheld as a Promega Corp. trade secret.
Dangerous components: Not applicable

4 First-aid measures

Description of first aid measures
General information: No special measures required.
After inhalation: If the patient feels unwell or is concerned, obtain medical advice.
After skin contact: Generally the product does not irritate the skin.
After eye contact: Rinse opened eye for several minutes under running water.
After swallowing: If the patient feels unwell or is concerned, obtain medical advice.
Information for doctor:
Most important symptoms and effects, both acute and delayed
None
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
None known
No further relevant information available.
Advice for firefighters No special advice
Protective equipment: No special measures required.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures Not required.
Environmental precautions: Dilute with plenty of water.
Methods and material for containment and cleaning up:
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Reference to other sections
See Section 7 for information on safe handling.
See Section 13 for disposal information.

7 Handling and storage

Handling:
Precautions for safe handling No special measures required.
Information about protection against explosions and fires: The product is not flammable.
Conditions for safe storage, including any incompatibilities

Storage:

Requirements to be met by storerooms and receptacles: No special requirements.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: None.
Specific end use(s): No further relevant information available.

8 Exposure controls/personal protection

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
Additional information: The lists that were valid during the creation were used as basis.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Breathing equipment: Not required.
Protection of hands: Not required.
Material of gloves
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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Eye protection: Not required.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:
Form: Viscous
Color: Colorless
Odor: Odorless
Odor threshold: Not determined.

Change in condition
Melting point/Melting range: 0 °C (32 °F)
Boiling point/Boiling range: 100 °C (212 °F)
Flash point: Not applicable.

Flammability (solid, gaseous): Not applicable.
Decomposition temperature: Not determined.
Auto igniting: Product is not selfigniting.

Danger of explosion: Product does not present an explosion hazard.
Explosion limits:
Lower: Not determined.
Upper: Not determined.
Vapor pressure: Not determined.
Density at 20 °C (68 °F): 1.00039 g/cm³ (8.34825 lbs/gal)
Relative density: Not determined.
Vapor density: Not determined.
Evaporation rate: Not determined.
Solubility in / Miscibility with Water: Fully miscible.
Partition coefficient (n-octanol/water): Not determined.
Viscosity:
  Dynamic at 20 °C (68 °F): 0.0952 mPas
  Kinematic: Not determined.
Organic solvents: 0.2 %
Water: 99.9 %
VOC content: 0.00 %
Solids content: 0.0 %
Other information: No further relevant information available.

10 Stability and reactivity

Reactivity: No further relevant information available.
Chemical stability:
  Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
  Possibility of hazardous reactions: No dangerous reactions known.
  Conditions to avoid: No further relevant information available.
  Incompatible materials: No further relevant information available.
  Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
  Acute toxicity:
  LD/LC50 values that are relevant for classification: No data available
  Primary irritant effect:
    on the skin: No irritant effect.
    on the eye: No irritating effect.
  Sensitization: No sensitizing effects known.
  Additional toxicological information:
    The product is not subject to classification according to internally approved calculation methods for preparations:

Carcinogenic categories
  IARC (International Agency for Research on Cancer)
    None of the ingredients are listed.
  NTP (National Toxicology Program)
    None of the ingredients are listed.
  OSHA-Ca (Occupational Safety & Health Administration)
    None of the ingredients are listed.
12 Ecological information

Toxicity
Aquatic toxicity:
Not available
No further relevant information available.

Persistence and degradability
Not available
No further relevant information available.

Bioaccumulative potential
Not known
No further relevant information available.

Mobility in soil
No further relevant information available.

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes:
Not available.
Not known to be hazardous to water.

Results of PBT and vPvB assessment

PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects
No further relevant information available.

13 Disposal considerations

Waste treatment methods

Recommendation:
Disposal should be in accordance with applicable regional, national and local laws and regulations.
Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Uncleaned packagings:

Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

| UN-Number | Not hazardous for transportation |
| DOT, ADR, IMDG, IATA | Not applicable |

| UN proper shipping name | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |

| Transport hazard class(es) | None |
| DOT, ADR, ADN, IMDG, IATA | Not applicable |

| Packing group | None |
| DOT, ADR, IMDG, IATA | Not applicable |

| Environmental hazards: | Not applicable. |
15 Regulatory information

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

Sara

Section 355 (extremely hazardous substances):
None of the ingredients are listed.

Section 313 (Specific toxic chemical listings):
None of the ingredients are listed.

TSCA (Toxic Substances Control Act) Inventory:
All ingredients are listed.

Hazardous Air Pollutants
None of the ingredients are listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for females:
None of the ingredients are listed.

Chemicals known to cause reproductive toxicity for males:
None of the ingredients are listed.

Chemicals known to cause developmental toxicity:
None of the ingredients are listed.

Cancerogenity categories

EPA (Environmental Protection Agency)
None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)
None of the ingredients are listed.

NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients are listed.

GHS label elements Not applicable
Signal word Not applicable
Hazard statements Not applicable

Water hazard class: Generally not hazardous for water.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Trade name: Glycerol Standard

**Department issuing SDS:**
Promega Corporation
Chemical Regulatory Department
2800 Woods Hollow Road
Madison, WI
Ph: (608)274-4330

**Date of preparation / last revision 02/19/2020 / -**

**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)
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ELINCS: European List of Notified Chemical Substances
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VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
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vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit

* Data compared to the previous version altered.