

07/04/2016

Kit Components

Product code	Description
L4831	TNT® Rabbit Reticulocyte Lysate, Foil Packaged, (5/ea)

Components:

L483	TNT® Rabbit Reticulocyte
L486	Luciferase Assay Reagent

Safety Data Sheet
acc. to OSHA HCS

Printing date 07/04/2016

Reviewed on 06/27/2016

1 Identification**Product identifier****Trade name:** TNT® Rabbit Reticulocyte**Article number:** L483**Application of the substance / the mixture** Laboratory chemicals**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: Regulatory.Affairs@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**

GHS08 Health hazard

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Label elements**GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).**Hazard pictograms** GHS08**Signal word** Warning**Hazard-determining components of labeling:**

ethane-1,2-diol

Hazard statements

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

Get medical advice/attention if you feel unwell.

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

Classification system:**NFPA ratings (scale 0 - 4)**

Health = 0

Fire = 0

Reactivity = 0

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HMIS-ratings (scale 0 - 4)

Health = 0

Fire = 0

Reactivity = 0

OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable**Primary route(s) of entry:** Oral**Target Organ(s):** Not applicable or unknown**Other hazards**

This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

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

3 Composition/information on ingredients

Chemical characterization: Mixtures**Description:**

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be withheld as a Promega Corp. trade secret.

Dangerous components:

107-21-1	ethane-1,2-diol	<2.00%
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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

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

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.

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Trade name: TNT® Rabbit Reticulocyte

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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

No dangerous substances are released.

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:

107-21-1 ethane-1,2-diol

TLV Short-term value: NIC-127* NIC-10** mg/m³, NIC-50* ppm

Long-term value: NIC-63.5* mg/m³, NIC-25* ppm

Ceiling limit value: (100) mg/m³

(H); *inh. fraction + vapor, P: **inh. fraction, H

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.

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Trade name: TNT® Rabbit Reticulocyte

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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): 7

Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	100 °C (212 °F)
Flash point:	Not applicable.

Flammability (solid, gaseous): Not applicable.

Ignition temperature:

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: 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: 0.5 %

Water: 91.2 %

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.

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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: Irritating effect.

Sensitization: No sensitizing effects known.

Additional toxicological information:

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 harmful to the aquatic environment

Persistence and degradability: Not available

Behavior in environmental systems:

Bioaccumulative potential: Not known

Mobility in soil: No further relevant information available.

Ecotoxicological effects:

Remark: Not available

Additional ecological information:

General notes: Generally not hazardous for 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.

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14 Transport information

UN-Number DOT, ADR, ADN, IMDG, IATA	Not hazardous for transportation Void
UN proper shipping name DOT, ADR, ADN, IMDG, IATA	None Void
Transport hazard class(es) DOT, ADR, ADN, IMDG, IATA Class	None Void
Packing group DOT, ADR, IMDG, IATA	None Void
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":	Void

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):

107-21-1 ethane-1,2-diol

TSCA (Toxic Substances Control Act):

7647-14-5 sodium chloride

107-21-1 ethane-1,2-diol

56-81-5 glycerol

7447-40-7 potassium chloride

142-72-3 Magnesium di(acetate)

7732-18-5 water

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:

107-21-1 ethane-1,2-diol

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Trade name: TNT® Rabbit Reticulocyte

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Carcinogenicity categories

EPA (Environmental Protection Agency)

None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

107-21-1 ethane-1,2-diol

A4

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:

ethane-1,2-diol

Hazard statements

May cause damage to organs through prolonged or repeated exposure.

Precautionary statements

Do not breathe dust/fume/gas/mist/vapors/spray.

Get medical advice/attention if you feel unwell.

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

National regulations:

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

Environmental Health and Safety Department

2800 Woods Hollow Road

Madison, WI

Ph:(608)274-4330

Date of preparation / last revision 07/04/2016 / -

Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

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)

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

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REL: Recommended Exposure Limit

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

*** Data compared to the previous version altered.**

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1 Identification**Product identifier****Trade name:** Luciferase Assay Reagent**Article number:** L486**Application of the substance / the mixture** Laboratory chemicals**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: Regulatory.Affairs@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** Void**Hazard pictograms** Void**Signal word** Void**Hazard statements** Void**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**

This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture.

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

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Reviewed on 06/27/2016

Trade name: Luciferase Assay Reagent

vPvB: Not applicable.

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3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be withheld as a Promega Corp. trade secret.

Dangerous components: Void

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

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

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

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.

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

No dangerous substances are released.

See Section 7 for information on safe handling.

See Section 13 for disposal information.

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Reviewed on 06/27/2016

Trade name: *Luciferase Assay Reagent*

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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:	<i>Fluid</i>
Color:	<i>Colorless</i>
Odor:	<i>Not determined</i>
Odor threshold:	<i>Not determined.</i>

pH-value at 20 °C (68 °F): *8***Change in condition**

Melting point/Melting range:	<i>Undetermined.</i>
Boiling point/Boiling range:	<i>100 °C (212 °F)</i>
Flash point:	<i>Not applicable.</i>

Flammability (solid, gaseous): *Not applicable.*

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Trade name: Luciferase Assay Reagent

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Ignition temperature:	
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:	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:	0.0 %
Water:	99.0 %
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: 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.
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.

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Trade name: Luciferase Assay Reagent

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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 harmful to the aquatic environment

Persistence and degradability Not available

Behavior in environmental systems:

Bioaccumulative potential Not known

Mobility in soil No further relevant information available.

Ecotoxicological effects:

Remark: Not 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 course or sewage system.

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	Void
UN proper shipping name	None
DOT, ADR, ADN, IMDG, IATA	Void
Transport hazard class(es)	None

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Trade name: Luciferase Assay Reagent

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DOT, ADR, ADN, IMDG, IATA

Class Void

Packing group

None

DOT, ADR, IMDG, IATA

Void

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": Void

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):

All 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.

Carcinogenicity 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 Void

Signal word Void

Hazard statements Void

National regulations:

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

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Trade name: Luciferase Assay Reagent

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.

Department issuing SDS:

Promega Corporation
 Environmental Health and Safety Department
 2800 Woods Hollow Road
 Madison, WI
 Ph: (608)274-4330

Date of preparation / last revision 07/04/2016 / -

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)
 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.**