



SAFETY DATA SHEET

1. Identification

Product identifier	CycLex® Proteasome Enrichment Activity Assay Kit Proteasome Substrate (Suc-LLVY-AMC)
Other means of identification	
Product code	CY-7002
Recommended use	Research use only.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer and Supplier (Asia)	Medical & Biological Laboratories (MBL) Co., Ltd. 4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, Japan
Telephone number	+81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)
Fax	+81-52-238-1440
E-mail	sds-support@mbl.co.jp
URL	http://www.mbl.co.jp/e/index.html
Contact person	SDS Support
Supplier	MBL International Corporation 15A Constitution Way, Woburn, MA 01801, USA
Telephone number	+1-800-200-5459, option 3
Fax	+1-781-939-6963
E-mail	tech@mblintl.com
URL	http://www.mblintl.com/
Contact person	Technical Service

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 4
Health hazards	Not classified.	
OSHA hazard(s)	Not classified.	
Label elements		
Hazard symbol	None.	
Signal word	Warning	
Hazard statement	Combustible liquid.	
Precautionary statement		
Prevention	Keep away from flames and hot surfaces. - No smoking. Wear protective gloves/eye protection/face protection.	
Response	In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.	
Storage	Store in a well-ventilated place. Keep cool.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None.	

3. Composition/Information on ingredients

Mixtures

Chemical name	CAS number	%
Dimethyl sulfoxide (DMSO)	67-68-5	90 - 100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move to fresh air. Get medical attention if any discomfort continues.

Skin contact	Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation develops or persists. Wash contaminated clothing before reuse. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital.
Eye contact	Immediately flush eye(s) with plenty of water. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops or persists.
Ingestion	Rinse mouth thoroughly. Get medical attention if any discomfort continues.
Most important symptoms/ effects, acute and delayed	Mild eye irritation. May cause mild skin irritation.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media	Water. Foam. Dry powder. Carbon dioxide (CO2).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	Vapors may form explosive mixtures with air. By heating and fire, harmful vapors/gases may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire-fighting equipment/ instructions	Move containers from fire area if you can do that without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Avoid inhalation of mist and contact with skin and eyes. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up	Dike far ahead of liquid spill for later disposal. Small Spills: Absorb spillage with non-combustible, absorbent material. Clean contaminated surface thoroughly. After removal, flush contaminated area thoroughly with water. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Use work methods which minimize production of vapors and mists. Avoid inhalation of mist and contact with skin and eyes. Do not smoke, use open fire or other sources of ignition. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep away from sources of ignition - No smoking. Keep container tightly closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value
Dimethyl sulfoxide (DMSO) (CAS 67-68-5)	TWA	250 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	No exposure standards allocated.
Appropriate engineering controls	Provide adequate ventilation and minimize the risk of inhalation of vapors and mists. Use explosion-proof equipment.
Individual protection measures, such as personal protective equipment	
Eye/face protection	If risk of splashing, wear safety goggles or face shield.
Skin protection	

Hand protection	Wear protective gloves. Butyl rubber gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Wear apron or protective clothing in case of splashes.
Respiratory protection	If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection. Seek advice from local supervisor.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Yellow.
Odor	Garlic-like odor.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	372.2 °F (189 °C) DMSO
Flash point	188.6 °F (87.0 °C) DMSO
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and
Chemical stability	Stable under normal temperature conditions.
Possibility of hazardous reactions	None known.
Conditions to avoid	Heat, flames and sparks. Moisture.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Sulfur oxides. Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Large quantities: May be absorbed in the body and cause dizziness, nausea and vomiting.
Inhalation	Components of the product may be absorbed into the body by inhalation.
Skin contact	May be absorbed through the skin. DMSO (dimethyl sulfoxide) easily penetrates the skin and may enhance the rate of skin absorption of skin-permeable substances.

Eye contact Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics Mild eye irritation. May cause mild skin irritation.

Information on toxicological effects

Acute toxicity Large quantities: May cause discomfort if swallowed. May be absorbed in the body and cause dizziness, nausea and vomiting.

Components	Species	Test Results
Dimethyl sulfoxide (DMSO) (CAS 67-68-5)		
Acute		
Oral	LD50	Mouse 7,920 mg/kg
		Rat 17.9 ml/kg

Skin corrosion/irritation May cause mild skin irritation. DMSO (dimethyl sulfoxide) easily penetrates the skin and may enhance the rate of skin absorption of skin-permeable substances.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory sensitization No data available.

Skin sensitization No data available.

Germ cell mutagenicity No data available.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity Not listed.

NTP Report on Carcinogens Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) Not listed.

Reproductive toxicity No data available.

Specific target organ toxicity - single exposure No data available.

Specific target organ toxicity - repeated exposure No data available.

Aspiration hazard No data available.

12. Ecological information

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

Components	Species	Test Results
Dimethyl sulfoxide (DMSO) (CAS 67-68-5)		
Aquatic		
Fish	LC50	Rainbow trout,donaldson trout (<i>Oncorhynchus mykiss</i>) 33,000 - 37,000 mg/L, 96 hours

Persistence and degradability No data available.

Bioaccumulative potential

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

Dimethyl sulfoxide (DMSO) (CAS 67-68-5) -2.03

Mobility in soil This product is water soluble and may disperse in soil.

Mobility in general The product is water soluble and may spread in water systems.

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

13. Disposal considerations

Disposal instructions Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.

Local disposal regulations Dispose of in accordance with local regulations.

Hazardous waste code Not regulated.

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in same manner as unused product.

14. Transport information**DOT**

UN number	NA1993
UN proper shipping name	Combustible liquids, n.o.s. (Dimethyl sulfoxide (DMSO))
Transport hazard class(es)	
Class	Combustible Liquid.
Subsidiary risk	–
Label(s)	None
Packing group	III
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling. This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less.
Special provisions	IB3, T1, T4, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	241
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)		Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
Hazard categories		Immediate Hazard - No Delayed Hazard - No Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance		Not listed.
SARA 311/312 Hazardous chemical		Yes
SARA 313 (TRI reporting)		Not regulated.
Other federal regulations		
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List		Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)		Not regulated.
Safe Drinking Water Act (SDWA)		Not regulated.
US state regulations		
Massachusetts RTK - Substance List		Not regulated.
New Jersey Worker and Community Right-to-Know Act		Dimethyl sulfoxide (DMSO) (CAS 67-68-5)
Pennsylvania Worker and Community Right-to-Know Law		Not regulated.
Rhode Island RTK		Not regulated.
California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT)		Not listed.
International Inventories		
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	EC Inventory	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes

Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	01/30/2016
Revision date	09/30/2016
Version	10
List of abbreviations	LC50: Lethal Concentration, 50%. LD50: Lethal Dose, 50%.
Further information	Not available.
References	International Chemical Safety Cards (ICSC) GESTIS Substance Database ECHA CHEM
Disclaimer	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



SAFETY DATA SHEET

1. Identification

Product identifier	CycLex® Proteasome Enrichment Activity Assay Kit UbL-Resin, Control-Resin
Other means of identification	
Product code	CY-7002
Recommended use	Research use only.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer and Supplier (Asia)	Medical & Biological Laboratories (MBL) Co., Ltd. 4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, Japan
Telephone number	+81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)
Fax	+81-52-238-1440
E-mail	sds-support@mbl.co.jp
URL	http://www.mbl.co.jp/e/index.html
Contact person	SDS Support
Supplier	MBL International Corporation 15A Constitution Way, Woburn, MA 01801, USA
Telephone number	+1-800-200-5459, option 3
Fax	+1-781-939-6963
E-mail	tech@mblintl.com
URL	http://www.mblintl.com/
Contact person	Technical Service

2. Hazard(s) identification

Physical hazards	Not classified.
Health hazards	Not classified.
OSHA hazard(s)	Not classified.
Label elements	
Hazard symbol	None.
Signal word	None.
Hazard statement	None.
Precautionary statement	
Prevention	Observe good industrial hygiene practices.
Response	Wash hands after handling.
Storage	Store away from incompatible materials.
Disposal	Dispose of waste and residues in accordance with local authority requirements.
Hazard(s) not otherwise classified (HNOC)	None.
Supplemental information	None.

3. Composition/Information on ingredients

Mixtures

Chemical name	CAS number	%
Sodium azide	26628-22-8	< 0.1

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Move to fresh air. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing. Wash skin with soap and water. Get medical attention if irritation develops or persists.

Eye contact	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops or persists.
Ingestion	Rinse mouth thoroughly. Get medical attention if any discomfort occurs.
Most important symptoms/ effects, acute and delayed	Dry skin.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire-fighting equipment/ instructions	Move containers from fire area if you can do it without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.
General fire hazards	The product is non-combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid inhalation of mist and contact with skin and eyes. For personal protection, see Section 8 of the SDS.
Methods and materials for containment and cleaning up	Absorb spillage with suitable absorbent material. After removal, flush contaminated area thoroughly with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes and prolonged skin contact. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Type	Value
Sodium azide (CAS 26628-22-8)	Ceiling	0.29 mg/m ³ 0.11 ppm

US NIOSH Pocket Guide to Chemical Hazards: Ceiling Limit Value and Time Period (if specified)

Components	Type	Value
Sodium azide (CAS 26628-22-8)	Ceiling	0.3 mg/m ³ 0.1 ppm

Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Provide adequate ventilation. Provide easy access to water supply and eye wash facilities.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Risk of splashes: Wear safety glasses with side shields.
Skin protection	
Hand protection	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.

Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	No special precautions. Seek advice from local supervisor.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Odorless.
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Sodium azide: Reacts with copper, lead, silver, mercury and carbon disulfide to form particularly shock-sensitive compounds. Reacts with acids, forming toxic and explosive hydrogen azide.
Conditions to avoid	None known.
Incompatible materials	Heavy metals. Acids.
Hazardous decomposition products	None known.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Large quantities: May cause discomfort if swallowed.
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Dry skin.
Information on toxicological effects	

Acute toxicity	Large quantities: May cause discomfort if swallowed.
Skin corrosion/irritation	May cause mild skin irritation.
Serious eye damage/eye irritation	May cause eye irritation.
Respiratory sensitization	Based on available data, the classification criteria are not met.
Skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	No data available.
Carcinogenicity	
IARC Monographs. Overall Evaluation of Carcinogenicity	Not listed.
NTP Report on Carcinogens	Not listed.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Based on available data, the classification criteria are not met.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills have a harmful or damaging effect on the environment.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Mobility in general	The product is water soluble and may spread in water systems.
Other adverse effects	The environmental hazard of the product is considered to be limited.

13. Disposal considerations

Disposal instructions	Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in same manner as unused product.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is not hazardous according to OSHA 29CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)		Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)		

Hazard categories

Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

Food and Drug Administration (FDA)

Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Massachusetts RTK - Substance List

Not listed.

New Jersey Worker and Community Right-to-Know Act

Not listed.

Pennsylvania RTK - Hazardous Substances

Not listed.

Rhode Island RTK

Not listed.

California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT)

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	EC Inventory	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date 01/30/2016

Revision date 09/30/2016

Version 10

Further information Not available.

References Registry of Toxic Effects of Chemical Substances (RTECS)
 HSDB® - Hazardous Substances Data Bank

Disclaimer This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



SAFETY DATA SHEET

1. Identification

Product identifier	CycLex® Proteasome Enrichment Activity Assay Kit 10X Assay Buffer
Other means of identification	
Product code	CY-7002
Recommended use	Research use only.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer and Supplier (Asia)	Medical & Biological Laboratories (MBL) Co., Ltd. 4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, Japan
Telephone number	+81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)
Fax	+81-52-238-1440
E-mail	sds-support@mbl.co.jp
URL	http://www.mbl.co.jp/e/index.html
Contact person	SDS Support
Supplier	MBL International Corporation 15A Constitution Way, Woburn, MA 01801, USA
Telephone number	+1-800-200-5459, option 3
Fax	+1-781-939-6963
E-mail	tech@mblintl.com
URL	http://www.mblintl.com/
Contact person	Technical Service

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Not classified.	
OSHA hazard(s)	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, acute hazard	Category 3
Label elements		
Hazard symbol	None.	
Signal word	None.	
Hazard statement	Harmful to aquatic life.	
Precautionary statement		
Prevention	Avoid release to the environment. Observe good industrial hygiene practices.	
Response	Wash hands after handling.	
Storage	None.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None.	

3. Composition/Information on ingredients

Mixtures

Chemical name	CAS number	%
Nonidet P-40	9016-45-9	0.5
Sodium dodecyl sulphate	151-21-3	0.01

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Remove contaminated clothing. Dry skin with paper towel or similar. Get medical attention if irritation develops or persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops or persists.
Ingestion	Drink plenty of water. Get medical attention if any discomfort occurs.
Most important symptoms/ effects, acute and delayed	Dry skin.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media	Use fire-extinguishing media appropriate for surrounding materials.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire-fighting equipment/ instructions	Move containers from fire area if you can do that without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Avoid contact with eyes and prolonged skin contact. For personal protection, see Section 8 of the SDS.
Methods and materials for containment and cleaning up	Absorb spillage with suitable absorbent material. After removal, flush contaminated area thoroughly with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Avoid contact with eyes and prolonged skin contact. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Appropriate engineering controls	Ventilation is not normally required.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Risk of splashes: Wear safety glasses with side shields.
Skin protection	
Hand protection	Risk of contact: Wear protective gloves. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	No special precautions. Seek advice from local supervisor.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Odorless.
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous reactions do not occur.
Conditions to avoid	None known.
Incompatible materials	None known.
Hazardous decomposition products	None known.

11. Toxicological information**Information on likely routes of exposure**

Ingestion	Large quantities: May cause discomfort if swallowed.
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Dry skin.

Information on toxicological effects

Acute toxicity	Large quantities: May cause discomfort if swallowed.
Skin corrosion/irritation	May cause mild skin irritation.
Serious eye damage/eye irritation	May cause eye irritation.
Respiratory sensitization	No data available.
Skin sensitization	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	No data available.

Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	Not classified.

12. Ecological information

Ecotoxicity Toxic to aquatic life.

Components	Species	Test Results
Nonidet P-40 (CAS 9016-45-9)		
Aquatic		
Fish	LC50	Japanese killifish
	LC50	Goldfish
	LC50	Bluegill
	LC50	Rainbow trout
Sodium dodecyl sulphate (CAS 151-21-3)		
Aquatic		
Crustacea	EC50	Acartia tonsa
	LC50	Water flea (<i>Daphnia magna</i>)
	LC50	Carp, hawk fish (<i>Cirrhinus mrigala</i>)
Fish	LC50	Carp, hawk fish (<i>Cirrhinus mrigala</i>)

Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	Expected to be highly mobile in soil.
Mobility in general	The product is water soluble and may spread in water systems.
Other adverse effects	Not available.

13. Disposal considerations

Disposal instructions	Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in same manner as unused product.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is not hazardous according to OSHA 29CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	Not regulated.	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.	
CERCLA Hazardous Substance List (40 CFR 302.4)	Not listed.	
Superfund Amendments and Reauthorization Act of 1986 (SARA)		
Hazard categories	Immediate Hazard - No Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No	

SARA 302 Extremely hazardous substance	No
SARA 311/312 Hazardous chemical	No
SARA 313 (TRI reporting)	Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List	Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)	Not regulated.
Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.

US state regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Massachusetts RTK - Substance List	Not regulated.
New Jersey Worker and Community Right-to-Know Act	Not regulated.
Pennsylvania RTK - Hazardous Substances	Not regulated.
Rhode Island RTK	Not regulated.
California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT)	Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	EC Inventory	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	01/30/2016
Revision date	09/30/2016
Version	10
List of abbreviations	LC50: Lethal Concentration, 50%.
Further information	Not available.
Disclaimer	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.



SAFETY DATA SHEET

1. Identification

Product identifier	CycLex® Proteasome Enrichment Activity Assay Kit 10X Cell Extraction Buffer
Other means of identification	
Product code	CY-7002
Recommended use	Research use only.
Recommended restrictions	None known.
Manufacturer / Importer / Supplier / Distributor information	
Manufacturer and Supplier (Asia)	Medical & Biological Laboratories (MBL) Co., Ltd. 4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, Japan
Telephone number	+81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)
Fax	+81-52-238-1440
E-mail	sds-support@mbl.co.jp
URL	http://www.mbl.co.jp/e/index.html
Contact person	SDS Support
Supplier	MBL International Corporation 15A Constitution Way, Woburn, MA 01801, USA
Telephone number	+1-800-200-5459, option 3
Fax	+1-781-939-6963
E-mail	tech@mblintl.com
URL	http://www.mblintl.com/
Contact person	Technical Service

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Not classified.	
OSHA hazard(s)	Not classified.	
Environmental hazards	Hazardous to the aquatic environment, long-term hazard	Category 3
Label elements		
Hazard symbol	None.	
Signal word	None.	
Hazard statement	Harmful to aquatic life with long lasting effects.	
Precautionary statement		
Prevention	Observe good industrial hygiene practices. Avoid release to the environment.	
Response	Wash hands after handling.	
Storage	Store away from incompatible materials.	
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.	
Hazard(s) not otherwise classified (HNOC)	None.	

3. Composition/Information on ingredients

Mixtures

Chemical name	CAS number	%
Triton X-100	9002-93-1	10

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Skin contact	Remove contaminated clothing. Dry skin with paper towel or similar. Get medical attention if irritation develops or persists.
Eye contact	Rinse immediately with plenty of water, also under the eyelids. Get medical attention if irritation develops or persists.
Ingestion	Drink plenty of water. Get medical attention if any discomfort occurs.
Most important symptoms/ effects, acute and delayed	Irritation of eyes and mucous membranes, including burning and tearing.
Indication of immediate medical attention and special treatment needed	Treat symptomatically.
General information	Get medical attention if any discomfort develops.

5. Fire-fighting measures

Suitable extinguishing media	Water. Foam. Dry powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	None known.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.
Fire-fighting equipment/ instructions	Move containers from fire area if you can do that without risk. Use water spray to cool unopened containers. Prevent entry to sewers and public waters.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Ensure adequate ventilation. Avoid inhalation of mist and contact with skin and eyes. For personal protection, see Section 8 of the SDS.
Methods and materials for containment and cleaning up	Absorb spillage with suitable absorbent material. After removal, flush contaminated area thoroughly with water. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling	Provide adequate ventilation. Use work methods which minimize production of vapors and mists. Avoid inhalation of mist and contact with skin and eyes. Wash hands after handling. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Keep container tightly closed. Store away from incompatible materials.

8. Exposure controls/personal protection

Occupational exposure limits	No exposure limits noted for ingredient(s).
Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	No exposure standards allocated.
Appropriate engineering controls	Provide adequate ventilation and minimize the risk of inhalation of vapors and mists.
Individual protection measures, such as personal protective equipment	
Eye/face protection	Wear safety glasses.
Skin protection	
Hand protection	Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Respiratory protection	In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory equipment with combination filter (gas filter/dust filter). Seek advice from local supervisor.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice. Wash hands after handling. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Odorless.
Odor threshold	Not available.
pH	Neutral.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	Not available.
Flash point	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	Soluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur. Hazardous reactions do not occur.
Conditions to avoid	Strong heating. Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Ingestion may cause irritation and malaise.
Inhalation	Under normal conditions of intended use, this material is not expected to be an inhalation hazard.
Skin contact	Prolonged contact may cause dryness of the skin.
Eye contact	Direct contact with eyes may cause temporary irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Irritation of eyes and mucous membranes, including burning and tearing.

Information on toxicological effects

Acute toxicity	Ingestion may cause irritation and malaise.
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Components	Species	Test Results
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Triton X-100 (CAS 9002-93-1)		
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Acute		
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Oral LD50 Rat 1,800 mg/kg

Skin corrosion/irritation	May cause skin irritation.
Serious eye damage/eye irritation	Causes serious eye damage.
Respiratory sensitization	No data available.
Skin sensitization	No data available.
Germ cell mutagenicity	No data available.
Carcinogenicity	
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)	Not listed.
Reproductive toxicity	No data available.
Specific target organ toxicity - single exposure	No data available.
Specific target organ toxicity - repeated exposure	No data available.
Aspiration hazard	No data available.

12. Ecological information

Ecotoxicity Harmful to aquatic life with long lasting effects.

Components	Species	Test Results
Triton X-100 (CAS 9002-93-1)		
Aquatic		
Crustacea	LC50 Water flea (<i>Daphnia magna</i>)	7.5 - 9.8 mg/L, 48 hours
Fish	LC50 Bluegill (<i>Lepomis macrochirus</i>)	2.8 - 3.2 mg/L, 96 hours

Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	Expected to be highly mobile in soil.
Mobility in general	The product is water soluble and may spread in water systems.
Other adverse effects	None known.

13. Disposal considerations

Disposal instructions	Dispose of in accordance with all applicable regulations. Do not discharge into drains, water courses or onto the ground.
Local disposal regulations	Dispose of in accordance with local regulations.
Hazardous waste code	Not regulated.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in same manner as unused product.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. Regulatory information

US federal regulations	This product is hazardous according to OSHA 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.	
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)		Not regulated.
OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)		Not listed.
CERCLA Hazardous Substance List (40 CFR 302.4)		Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate Hazard - No
 Delayed Hazard - No
 Fire Hazard - No
 Pressure Hazard - No
 Reactivity Hazard - No

SARA 302 Extremely hazardous substance

No

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)

Not regulated.

US state regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

Massachusetts RTK - Substance List

Not regulated.

New Jersey Worker and Community Right-to-Know Act

Not regulated.

Pennsylvania RTK - Hazardous Substances

Not regulated.

Rhode Island RTK

Not regulated.

California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT)

Not listed.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	EC Inventory	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	01/30/2016
Revision date	09/30/2016
Version	10
List of abbreviations	LC50: Lethal Concentration, 50%. LD50: Lethal Dose, 50%.
Further information	Not available.
References	RTECS AQUIRE C&L Inventory database
Disclaimer	This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.