Plant Viral dsRNA Enrichment Kit Revised: 09/30/2016, 1/10



SAFETY DATA SHEET

1. Identification

Product identifier Plant Viral dsRNA Enrichment Kit

DRB protein

Other means of identification

Product code 5345-100

Recommended use Research use only.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer andMedical & Biological Laboratories (MBL) Co., Ltd.Supplier (Asia)4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, JapanTelephone 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 thoroughly after handling.

Storage Store away from incompatible materials.

None.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise

classified (HNOC)

3. Composition/Information on ingredients

Mixtures

Chemical name	CAS number	%
Glycerol (Glycerin)	56-81-5	50 - 60

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 discomfort develops or persists.

Skin contact Remove contaminated clothing. Wash with soap and water. Get medical attention if irritation

develops or persists. Wash contaminated clothing before reuse.

Eye contact Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact

lenses. Get medical attention if irritation develops or persists.

Ingestion Drink plenty of water. Seek medical advice.

Most important symptoms/ effects, acute and delayed

Irritation of eyes and mucous membranes. Mild skin irritation.

Indication of immediate medical attention and special

treatment needed

General information Get medical attention if any discomfort develops.

Treat symptomatically.

5. Fire fighting measures

Suitable extinguishing media Water. Foam. Dry powder. Carbon dioxide (CO2).

Unsuitable extinguishing

None known.

media

Specific hazards arising from Fire or high temperatures create: Carbon oxides.

the chemical

and precautions for

Fire-fighting

Special protective equipment Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

firefighters

Move containers from fire area if you can do that without risk. Use water spray to cool

equipment/instructions unopened containers. Prevent entry to sewers and pubic 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

Dike far ahead of liquid spill for later disposal. Small Spills: Absorb spillage with suitable 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. 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. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Туре	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
US. ACGIH Threshold Limit Values			
	_		

Components	Type	Value	Form	
Glycerol (CAS 56-81-5)	TWA	10 mg/m3	Mist.	

Biological limit values

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

Exposure guidelines

No exposure standards allocated.

Appropriate engineering

Provide adequate ventilation and minimize the risk of inhalation of vapors and mists.

controls

Individual protection measures, such as personal protective equipment

Eye/face protection Skin protection

Wear safety glasses.

Wear protective gloves. Nitrile gloves are recommended, but be aware that the liquid may **Hand protection**

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. 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.

In case of inadequate ventilation or risk of inhalation of vapors, use suitable respiratory Respiratory protection

equipment with combination filter (gas filter/dust filter). Seek advice from local supervisor.

Wear appropriate thermal protective clothing, when necessary. Thermal hazards

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.

Viscous liquid. **Form** Colorless. Color Odor Odorless. Not available. **Odor threshold** Neutral. Melting point/freezing point Not available. Not available. Initial boiling point and

boiling range

Not available. Flash point **Evaporation rate** Not available. Not applicable. Flammability (solid, gas) Upper/lower flammability or explosive limits Not available.

Flammability limit

- lower (%)

Not available. Flammability limit

- upper (%)

Vapor pressure Not available. Not available. Vapor density Relative density Not available. Soluble in water. Solubility(ies) Not available. **Partition coefficient**

(n-octanol/water)

Not available. **Auto-ignition temperature** Not available. **Decomposition temperature**

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 Hazardous reactions do not occur.

reactions

Strong heating. Contact with incompatible materials. Conditions to avoid

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

None known.

products

11. Toxicological information

Information on likely routes of exposure

Ingestion may cause irritation and malaise. Ingestion

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

hazard.

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Skin contact May cause skin irritation. Causes skin irritation.

Eye contact May cause eye irritation on direct contact. Causes eye irritation. Irritation of eyes and mucous membranes. Mild skin irritation. Symptoms related to the physical, chemical and

toxicological characteristics

Information on toxicological effects

Acute toxicity Ingestion may cause irritation and malaise.

Skin corrosion/irritation May cause skin irritation.

May cause eye irritation on direct contact. Serious eye damage/eye

irritation

Respiratory sensitization Not classified. Not a skin sensitizer. Skin sensitization Not classified. Germ cell mutagenicity Carcinogenicity IARC not listed. Not classified. Reproductive toxicity

Specific target organ toxicity Knowledge about health hazard is incomplete.

- single exposure

Specific target organ toxicity

- repeated exposure

Knowledge about health hazard is incomplete.

Aspiration hazard Not classified.

12. Ecological information

The product is not classified as environmentally hazardous. However, this does not exclude **Ecotoxicity**

the possibility that large or frequent spills have a harmful or damaging effect on the

environment.

Persistence and degradability The product is biodegradable. Bioaccumulative potential The product is not bioaccumulating.

Partition coefficient n-octanol / water (log Kow)

Glycerol (CAS 56-81-5) -1.76

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 No data 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.

Dispose of in accordance with local regulations. Local disposal regulations

Not regulated. Hazardous waste code

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

products

Contaminated packaging Dispose of in same manner as unused product.

14. Transport information

DOT Not regulated as a dangerous good. **IATA** Not regulated as a dangerous good. Not regulated as a dangerous good. **IMDG**

Not applicable. Transport in bulk according

to Annex II of MARPOL 73/78

and the IBC Code

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 regulated. **CERCLA Hazardous Substance List (40 CFR 302.4)** Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Immediate Hazard - Yes **Hazard categories**

> Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No

Not regulated.

SARA 302 Extremely hazardous substance No SARA 311/312 Hazardous chemical Yes

Other federal regulations

Not regulated. 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) Safe Drinking Water Act (SDWA) Not regulated. Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR Not listed.

1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21

CFR 1310.12(c))

DEA Exempt Chemical Mixtures Code Number Not regulated. Not regulated. Food and Drug Administration (FDA)

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 Glycerol (CAS 56-81-5)

Not regulated. **New Jersey Worker and Community Right-to-Know Act**

Pennsylvania RTK - Hazardous Substances Glycerol (CAS 56-81-5) Glycerol (CAS 56-81-5) **Rhode Island RTK**

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 (PIC	CS) 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 09/30/2016 **Revision date** Version 10

Further information Not available. References **IUCLID**

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.

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SAFETY DATA SHEET

1. Identification

Product identifier Plant Viral dsRNA Enrichment Kit

Positive Control dsRNA

Other means of identification

Product code 5345-100

Recommended use Research use only.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer andMedical & Biological Laboratories (MBL) Co., Ltd.Supplier (Asia)4-5-3 Sakae, Naka-ku, Nagoya, Aichi 460-0008, JapanTelephone number+81-52-238-1901 (Monday to Friday, 9 AM to 5 PM JST)

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 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 symbolNone.Signal wordNone.Hazard statementNone.

Precautionary statement

Prevention Observe good industrial hygiene practices.

Response Wash thoroughly after handling.

Storage None.
Disposal None.
Hazard(s) not otherwise None.

classified (HNOC)

3. Composition/Information on ingredients

Mixtures

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

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 No adverse effects due to ingestion are expected. Get medical attention if any discomfort

occurs.

Most important symptoms/ effects, acute and delayed

Dry skin.

Indication of immediate medical attention and special Treat symptomatically.

treatment needed

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 None known.

the chemical

and precautions for firefighters

Special protective equipment Self-contained breathing apparatus and full protective clothing should be worn when fighting chemical fires. Selection of respiratory protection for firefighting: follow the general fire

Fire-fighting equipment/

instructions

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

General fire hazards The product is non-combustible.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid prolonged and repeated contact. Wear suitable protective clothing. For personal

protection, see Section 8 of the SDS.

precautions indicated in the workplace.

Methods and materials for containment and cleaning up Absorb spillage with non-combustible, absorbent material. After removal, flush contaminated

area thoroughly with water. For waste disposal, see Section 13 of the SDS.

Prevent further leakage or spillage if safe to do so. **Environmental precautions**

7. Handling and storage

Precautions for safe handling Avoid prolonged and repeated contact. Wear appropriate personal protective equipment.

Observe good industrial hygiene practices.

Conditions for safe storage.

including any incompatibilities Keep container 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

Provide adequate ventilation.

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. Be aware that the liquid may penetrate the gloves. Frequent change

is advisable. Suitable gloves can be recommended by the glove supplier.

Wear protective gloves. Wear appropriate clothing to prevent repeated or prolonged skin Other

contact.

Respiratory protection Thermal hazards

No protection is ordinarily required under normal conditions of use. Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and

protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state Liquid. **Form** Liquid. Colorless. Color Odor Odorless. **Odor threshold** Not available. Ηα Not available. Melting point/freezing point Not available. Initial boiling point and Not available.

boiling range

Flash point Not available.

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

Upper/lower flammability or explosive limits

Flammability limit Not available.

- lower (%)

Flammability limit Not available.

- upper (%)

Vapor pressureNot available.Vapor densityNot available.Relative densityNot available.Solubility(ies)Soluble in water.Partition coefficientNot available.

(n-octanol/water)

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

None known.

Conditions to avoid None known.

Incompatible materials None known.

Hazardous decomposition No hazard in normal industrial use.

products

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 Dry skin.

physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity

Skin corrosion/irritation

Serious eye damage/eye

Large quantities: May cause discomfort if swallowed.

Prolonged contact may cause dryness of the skin.

Direct contact with eyes may cause temporary irritation.

irritation

Respiratory sensitizationNo data available.Skin sensitizationNot a skin sensitizer.Germ cell mutagenicityNo data available.CarcinogenicityNo data available.Reproductive toxicityNo data available.

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Specific target organ toxicity No data available.

- single exposure

Specific target organ toxicity No data available.

- repeated exposure

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.

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.

No data available. Other adverse effects

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 Dispose of in accordance with local regulations.

products

Contaminated packaging Dispose of in same manner as unused product.

Not applicable.

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

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

Not regulated. SARA 313 (TRI reporting)

Other federal regulations

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

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

Safe Drinking Water Act (SDWA)

Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR

1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21

CFR 1310.12(c))

Not regulated. Not regulated.

Not regulated.

Not listed.

Not regulated.

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Not regulated. Not regulated.

DEA Exempt Chemical Mixtures Code Number Food and Drug Administration (FDA)

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 ListNot regulated.New Jersey Worker and Community Right-to-Know ActNot regulated.Pennsylvania RTK - Hazardous SubstancesNot regulated.Rhode Island RTKNot 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 (PIC	CS) Yes
United States & Puerto	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

Rico

 Issue date
 01/30/2016

 Revision date
 09/30/2016

Version 10

Further information Not available.

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information should be used to make an independent determination of the methods to

safeguard workers and the environment.