



# Safety Data Sheet

This safety data sheet complies with the requirements of:  
JIS Z 7253:2019

Revision Date 2021-02-05  
Revision Number 6

## 1. Identification

**Product Name** SMART™ MMLV RT  
**Product Code** S4989  
**Registration number** No information available  
**Details of the supplier of the safety data sheet**

### Supplier

Japan:

Takara Bio Inc.

Nojihigashi 7-4-38

Kusatsu, Shiga 525-0058, Japan

Phone: +81.77.565.6972

Web: www.takara-bio.com

China:

Takara Biomedical Technology (Beijing) Co., Ltd.

Life Science Park, 22 KeXueYuan Road, Changping District,

Beijing 102206, China

Phone: +86 10 8072 0980

Web: www.takarabiomed.com.cn

**Emergency telephone number** In case of emergency, call PERS (Professional Emergency Resource Services)  
1-800-633-8253 (US) or 801-629-0667 (international).

### Recommended use of the chemical and restrictions on use

**Identified uses** For research use only. Not for use in diagnostic procedures

**Restrictions on use** No information available

## 2. Hazard(s) identification

### GHS Classification

Not classified

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	No effects on or via lactation
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Classification not possible
Ozone	Classification not possible

**GHS label elements****Hazard Statements**

Not classified

**Prevention**

• Not applicable

**Response**

• Not applicable

**Storage**

• Not applicable

**Disposal**

• Not applicable

**Other hazards**

May be harmful if inhaled.

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

Chemical name	CAS No	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No
Tween 20	9005-64-5	< 0.1	Existing	(8)-55	Existing	(8)-55

**Pollutant Release and Transfer Registry (PRTR)**

Not applicable

**Industrial Safety and Health Law****ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures****In case of inhalation**

Remove to fresh air.

**In case of skin contact**

Wash skin with soap and water.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**In case of ingestion**

Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms/effects, acute and delayed**

No information available.

**Note to physicians**

Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Unsuitable extinguishing media</b>	Do not scatter spilled material with high pressure water streams.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media Large Fire</b>	Cool drums with water spray. CAUTION: Use of water spray when fighting fire may be inefficient.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

<b>Handling</b>	
<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Storage</b>	
<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological occupational exposure limits</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Environmental exposure controls</b>	No information available.
<b>Personal Protective Equipment</b>	
<b>Respiratory protection</b>	No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Eye/face protection</b>	No special protective equipment required.
<b>Skin and body protection</b>	No special protective equipment required.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Clear, colorless
Physical state	Liquid
Color	No information available
Odor	None
Odor Threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Boiling point/boiling range (°C)		No information available
Flammability (solid, gas)		No information available
Upper/lower flammability or explosive limits		
Upper flammability limit:		
Lower flammability limit:		
Flash point		ASTM D 56
Evaporation Rate		No information available
Autoignition temperature	392.8 °C / 739 °F	No information available
Decomposition temperature		No information available
pH		No information available
Viscosity		
Kinematic viscosity		No information available
Dynamic Viscosity		No information available
Water solubility		No information available
Solubility in other solvents		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Vapor density		No information available
Relative density		No information available
Particle characteristics		
Particle Size		Not applicable
Particle Size Distribution		Not applicable

### Other information

Explosive properties	No information available
Oxidizing properties	No information available

## 10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Incompatible materials	None known based on information supplied.
Hazardous Decomposition Products	None known based on information supplied.
Explosion Data	
Sensitivity to static discharge	None.
Sensitivity to mechanical impact	None.

## 11. Toxicological information

### Acute toxicity

#### Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	25,200.00 mg/kg
ATEmix (dermal)	20,020.00 mg/kg

**ATEmix (inhalation-dust/mist)** 5.5054 mg/l

0.99942 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 0.99942 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 50.99942 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 50.99942 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 0.99942 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Tween 20	= 37000 mg/kg ( Rat )	-	-

<b>Symptoms</b>	No information available.
<b>Product Information</b>	
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin corrosion/irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Serious eye damage/eye irritation</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Respiratory or skin sensitization</b>	Classification not possible.
<b>Germ cell mutagenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Carcinogenicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Reproductive toxicity</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Target organ effects</b>	Kidney. Respiratory system. Eyes. Skin.
<b>STOT - single exposure</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>STOT - repeated exposure</b>	Based on available data, the classification criteria are not met. Classification not possible.
<b>Aspiration hazard</b>	Based on available data, the classification criteria are not met. Classification not possible.

## 12. Ecological information

<b>Ecotoxicity</b>	Classification not possible.
<b>Percentage for unknown</b>	0.99942 % of the mixture consists of component(s) of unknown hazards to the aquatic

hazards environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.  
**Other adverse effects** No information available.

### 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

**IMDG** Not regulated

**ADR** Not regulated

**IATA** Not regulated

**Japan** Not regulated

### 15. Regulatory information

#### National regulations

#### **Pollutant Release and Transfer Registry (PRTR)**

Not applicable

#### **Industrial Safety and Health Law**

Not applicable

#### **ISHL Notifiable Substances**

Not applicable

#### **Poisonous and Deleterious Substances Control Law**

Not applicable

#### **Fire Service Law:**

Not applicable

#### **Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

Chemical name	CAS No	Chemical Substances Control Law
Tween 20	9005-64-5	Priority assessment chemical substance

#### **Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

#### **Air Pollution Control Law**

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

#### **International Regulations**

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories****IECSC****Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

**16. Other information****Revision Date**

2021-02-05

**Revision Note**

No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	Time weighted average	Ceiling	Maximum limit value
*	Skin designation	+	Sensitizers
**	Hazard Designation		

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)

U.S. Environmental Protection Agency ChemView Database

European Chemicals Agency

European Food Safety Authority (EFSA)

EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGl(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

**Disclaimer**

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**End of Safety Data Sheet**