SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: Trastuzumab deruxtecan for Injection 100mg
Product code: DS-8201
Unique Formula Identifier:

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses: Medicinal products
Uses advised against: Use for research and / or commercial

1.3. Details of the supplier of the safety data sheet

Name of manufacturer in Japan: DAIICHI SANKYO CO., LTD.
Department in Charge Technology Business Management Department
Address 1-12-1, Shinomiya, Hiratsuka, Kanagawa 254-0014, Japan
Telephone number +81-(0)463-31-6953
Fax number +81-(0)463-31-6950
e-mail address contact_sds@daiichisankyo.co.jp

1.4. Emergency telephone number

+81-(0)3-6225-1111
(on business days 9:00 AM to 5:00 PM JST)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008:
Muta.2:H341
Repr.1B:H360

2.2. Label elements

Hazard pictograms

Signal word	**Danger**
Hazard Statements	H341: Suspected of causing genetic defects. H360: May damage fertility or the unborn child.
Precautionary Statements	
[Prevention]	P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P280: Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
[Emergency response]	P308+P313: IF exposed or concerned: Get medical advice/attention.
[Storage]	P405: Store locked up.
[Disposal]	P501: Dispose of contents/ container in accordance with related laws and local/ regional regulations.
Supplemental information	Not applicable

2.3. Other hazards

The product does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

This product does not contain any substances considered to be endocrine disruptors in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 3: Composition/information on ingredients

3.1. Substances Not applicable

3.2. Mixtures

Product Name: Trastuzumab deruxtecan for Injection 100mg

Information on ingredients:

Chemical name	CAS registry number	EC No.	Index No.	REACH Registration No.*	Concentration (wt %)	Classification**	Specific Concentration limits/ M-factor/ Acute Toxicity Estimate
Trastuzumab Deruxtecan	1826843-81-5	-	-	-	17	Muta. 2:H341 (Deruxtecan as a component) Repr.1B:H360 (Trastuzumab as a component) (Deruxtecan as a component)	-
Sucrose	57-50-1	200-334-9	-	-	Remaining amount	-	-
L-Histidine hydrochloride monohydrate	5934-29-2	611-821-4	-	-		-	-
L-Histidine	71-00-1	200-745-3	-	-		-	-
Polysorbate 80	9005-65-6	500-019-9	-	-		-	-

* Registration numbers of ingredients which shall be in compliance with Regulation (EC) No 1907/2006 will be filled in

later.

** Full texts of relevant hazard statements and risk phrases can be seen in SECTION 16 of this SDS.

SECTION 4: First aid measures

4.1. Description of first aid measures

GENERAL ADVICE	If you feel unwell, call doctor/physician.
IF INHALED	Remove the victim to fresh air. Seek medical advice.
IF ON SKIN	Remove all contaminated clothing and wash the affected area with soap and water for 15 minutes. Consult a doctor.
IF IN EYES	Gently rinse the affected eyes with clean water for at least 15 minutes. Consult a doctor.
IF SWALLOWED	Rinse mouth thoroughly with water. Get medical advice/attention.
Self-Protection of the First Aider	Wear appropriate eyes and skin protective equipment.

4.2. Most important symptoms and effects, both acute and delayed

Suspected of causing genetic defects.
May damage fertility or the unborn child.

4.3. Indication of any immediate medical attention and special treatment needed

No information

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

Use water spray, carbon dioxide, extinguishing powder, foam, inert gas.

Unsuitable extinguishing media

No information

5.2. Special hazards arising from the substance or mixture

When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, nitrogen oxides (NOx).

5.3. Advice for firefighters

Fire fighters should wear appropriate personal protective equipment (protective clothing, chemical safety goggles or rubber gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:

Keep non-essential and unprotected persons away from the area.

For emergency responders:

Wear proper protecting equipment to prevent contact with skin and inhalation of dust.
Ventilate area. Stop leak if safe to do so.
Keep away from open flame and source of ignition.
Prevent further leakage if safe to do so.

6.2. Environmental precautions

Ventilate the area after cleaning in completed. Do not allow material to be released to the environment without proper governmental permits.

6.3. Methods and material for containment and cleaning up

Carefully sweep up and remove the contaminant. Do not wash away into sewer or waterways. Ventilate the area after the cleaning is complete.

6.4. Reference to other sections

Refer to “SECTION 8: Exposure controls/personal protection” and “SECTION 13: Disposal considerations” as appropriate.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures:

Install appropriate equipment and wear suitable protective apparatus described in “SECTION 8: Exposure controls/ personal protection”.
Wear proper protective equipment to avoid contact with skin and eyes. Do not breathe dust.
Handling temperature: Room temperature
Use in well-ventilated areas.
Avoid heat and direct sunlight.

Advice on general occupational hygiene:

Practice good personal hygiene after handling this product, especially before eating, drinking, smoking or using the toilet.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures:

Install appropriate equipment and wear suitable protective apparatus described in “SECTION 8: Exposure controls/ personal protection”.
Use in well-ventilated areas.

Incompatible materials:

Oxidizing agents, reducing agents

Conditions for safe storage:

Store in a tight container with protection from light.
Avoid heat and direct sunlight.
Storage temperature: Refrigerated.
Stability of active ingredients under different conditions

		Physical conditions	Container	Storage periods	Results
Long-term storage test		5℃ (2℃ to 8℃)	Brown glass vial	48 months	Compatible
Accelerated test		25℃/60% RH		6 months	Compatible
Severe test	Temperature and humidity	40℃/75% RH		6 months	Compatible
	Light	2,000 lx (D65 lamp)		1.2 million lx·h (≥ 200 W·h/m^2)	Compatible

Testing parameters: description, pH, purity, moisture, insoluble particles, protein concentration, and biological activity

Packing material:

Use a sealed container without damage or leakage.

7.3. Specific end use(s)

Medicinal products

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Acceptable concentration (exposure limit, biological exposure index)

EU BOEL	Not listed
Long-term exposure limit values (8 hours)	
EU BOEL	Not listed
Short-term exposure limit values (15 minutes)	
EU BLV	Not listed
EU BGV	Not listed
EU IOELV	Not listed
Long-term exposure limit values (8 hours)	
EU IOELV	Not listed
Short-term exposure limit values	

(15 minutes)	
ACGIH TLV-TWA (2024)	Listed (Sucrose)
ACGIH TLV-STEL (2024)	Not listed

8.2. Exposure controls

Appropriate engineering controls:

Refer to SECTION 7. No further action is necessary.

Personal protective equipment:

Respiratory protection	With correct and proper use, and under normal conditions, breathing protection is not required. Respiratory protection required in case of: aerosol or mist generation.
Hand protection	Wear rubber gloves or chemical resistant gloves.
Eye protection	Wear protective eyeglasses or chemical safety goggles.
Skin and body protection	Wear chemical resistant gloves and suitable protective clothing.

Environmental exposure controls

Prevent product from entering drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid (Cake-like masses)
Colour	White to yellowish white
Odour	No information
Melting point/freezing point	No information
Boiling point or initial boiling point and boiling range	No information
Flammability	No information
Lower and upper explosion limit	Not applicable
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Decomposition temperature	No information
pH	5.1 - 5.9 (Dissolved in 5mL of water)
Kinematic viscosity	Not applicable
Solubility	Soluble in water.
Partition coefficient n-octanol/water (log value)	No information
Vapour pressure	No information
Density and/or relative density	No information
Relative vapour density	Not applicable
Particle characteristics	No information

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosives	No information
Flammable gases	Not applicable
Aerosols	Not applicable
Oxidising gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Not applicable
Flammable solids	No information
Self-reactive substances and mixtures	No information
Pyrophoric liquids	Not applicable
Pyrophoric solids	No information
Self-heating substances and mixtures	No information
Substances and mixtures, which emit flammable gases in contact with water	No information
Oxidizing liquids	Not applicable
Oxidizing solids	No information
Organic peroxides	No information
Corrosive to metals	No information
Desensitised explosives	No information

9.2.2 Other safety characteristics

Mechanical sensitivity	No information
Self-accelerating polymerisation temperature	No information
Formation of explosible dust/air mixtures	No information
Acid/alkaline reserve	No information
Evaporation rate	No information
Miscibility	No information
Conductivity	No information
Corrosiveness	No information
Gas group	No information
Redox potential	No information
Radical formation potential	No information
Photocatalytic properties	No information

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

Stable under refrigerated condition and protection from light.

10.3. Possibility of hazardous reactions

No information

10.4. Conditions to avoid

Avoid heat and direct sunlight.

10.5. Incompatible materials

Oxidizing agents, reducing agents

10.6. Hazardous decomposition products

No information

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on product:

Acute toxicity:	Classification not possible No information
Skin corrosion/irritation:	Classification not possible No information
Serious eye damage/irritation:	Classification not possible No information
Respiratory sensitization:	Classification not possible No information
Skin sensitization:	Classification not possible No information
Germ cell mutagenicity:	Category 2 <u>Deruxtecan as a component</u> The topoisomerase inhibitor component of the drug (MAAA-1181a) was not mutagenic in an *in vitro* bacterial reverse mutation assay and clastogenic in both an *in vitro* Chinese hamster lung chromosome aberration assay and an *in vivo* rat bone marrow micronucleus assay.
Carcinogenicity:	Classification not possible No information
Reproductive toxicity:	Category 1B <u>Trastuzumab as a component</u> Trastuzumab, a HER2 receptor antagonist, can cause foetal harm when administered to a pregnant woman. <u>Deruxtecan as a component</u> Deruxtecan is toxic to rapidly dividing cells (lymphatic/haematopoietic organs, intestine, or testes) and

	genotoxic, suggesting the potential for embryotoxicity and teratogenicity.
STOT-single exposure:	Classification not possible Supporting information: Human data: In clinical trials, serious adverse reactions such as interstitial lung diseases, bone marrow suppression, and infusion reaction were observed. These effects were observed following intravenous administration and therefore cannot be directly applied for the CLP classification.
STOT-repeated exposure:	Classification not possible Supporting information: Human data: In clinical trials, serious adverse reactions such as interstitial lung diseases, bone marrow suppression, and infusion reaction were observed. These effects were observed following intravenous injection and therefore cannot be directly applied for the CLP classification. Animal data: <u>Trastuzumab Deruxtecan</u> NOAEL (monkey), intravenous: <3 mg/kg (3 months) Histopathological changes in the bone marrow, kidneys, gastrointestinal tract, testes, skin, and lungs. These effects were observed following intravenous injection and therefore cannot be directly applied for the CLP classification. <u>Deruxtecan as a component</u> NOAEL (monkey), intravenous: <1 mg/kg (4 weeks) Histopathological changes in heart, bone marrow, thymus, spleen, lymph nodes, Peyer's patches, liver, gastrointestinal tract, and cornea. These effects were observed following intravenous injection and therefore cannot be directly applied for the CLP classification.
Aspiration hazard:	Classification not possible No information

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

This mixture/product does not contain any substances known to have hormone-disrupting properties in relation to health.

11.2.2. Other information

No information

SECTION 12: Ecological information

12.1. Toxicity:

Information on product:

Acute (short-term) toxicity:	Classification not possible
	No information
Chronic (long-term) toxicity:	Classification not possible
	No information

12.2. Persistence and degradability:

Information on product:

No information

12.3. Bioaccumulative potential:

Information on product:

No information

12.4. Mobility in soil:

Information on product:

No information

12.5. Results of PBT and vPvB assessment:

The product does not meet the PBT and vPvB criteria.

12.6. Endocrine disrupting properties:

This mixture/product does not contain any substances considered to have endocrine-disrupting properties in relation to the environment.

12.7. Other adverse effects:

No information

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste in accordance with federal, state and local laws.
When disposing, consult to a certificated waste trader or local offices if they deal with the waste.
Used container should be recycled after cleaning or dispose of in compliance with related laws and local regulations.
Contents should be removed completely when dispose of empty containers.

SECTION 14: Transport information

14.1. UN number or ID number	Not applicable
14.2. UN proper shipping name	Not applicable

14.3. Transport hazard class(es) Not applicable
14.4. Packing group Not applicable
14.5. Environmental hazards Not applicable

14.6. Special precautions for user

When transporting, avoid direct sunlight. Confirm no leakage to containers. When loading, prevent containers from falling, dropping off or damaging. Take preventive measures of collapse.

14.7. Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

EU regulations:
The product and its ingredients are not regulated by specific provisions related to protection of human health or the environment at EU level, e.g. not considered as SVHCs or POPs.

National regulations:
Water hazard class 3 (AwSV, German Regulation) (Self-assessment): highly hazardous to water

15.2. Chemical safety assessment

Not conducted

SECTION 16: Other information

Key literature references and sources for data:

Information of DAIICHI SANKYO CO., LTD.
ACGIH, American Conference of Governmental Industrial Hygienists (2024) TLVs and BEIs.

Relevant hazard statements of which do not appear elsewhere in this SDS

Not applicable

Abbreviations

PBT: Persistent, Bioaccumulative and Toxic substance
POPs: Persistent Organic Pollutants
STOT: Specific Target Organ Toxicity
SVHC: Substances of Very High Concern
vPvB: Very Persistent and Very Bioaccumulative

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Muta.2	H341	On basis of test data
Repr.1B	H360	On basis of test data

[Disclaimer]

This SDS has been prepared based on the best available information however, it may not be sufficient in some cases. It

is user's responsibility to modify or update any contents in this SDS regarding information on hazardous properties and/or instruction for safe handling of the product when they become available. Precautionary measures in this SDS are only applicable for normal handling conditions and it is necessary to take appropriate additional measures to ensure safe handling which depend on your specific use conditions or situations.