

SAFETY DATA SHEET

Product Identifier: Cadmium Conjugated Proteins with Preservatives
 Catalog ID numbers: Cat# 3106XXXX-311XXXXXX

SDS ID: SDS-00021 Rev 01

SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Contact information

General Fluidigm Corporation
 2 Tower Place, Suite 2000, South San Francisco, CA 94080
 Main (U.S.): +1 (650) 266-6000
 E-mail: techsupport@fluidigm.com

Emergency telephone number + (650) 266-6100 (outside US)
 + (866) 358-4354 (toll free)

Product identifier Cadmium Conjugated Proteins with Preservatives

Synonyms None identified

Trade names None identified

Chemical family Mixture - contains a polypeptide.

Relevant identified uses of the substance or mixture and uses advised against *For Research Use Only.*

Note This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture. Workers manufacturing this product/mixture should consult the SDS of each hazardous ingredient for hazard information and handling recommendations.

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture The classification and labeling listed below is for bulk formulation.

Globally Harmonized System [GHS] Not classified

Label elements

GHS hazard pictogram None required

GHS signal word None required

GHS hazard statements None required

GHS precautionary statements None required

Other hazards Cadmium Conjugated Proteins with Preservatives is an antibody-based mixture. In a workplace setting, the likelihood of systemic effects following accidental ingestion is low, due to the rapid breakdown of proteins in the digestive tract. Based on the large molecular weight of proteins, systemic absorption following inhalation or dermal contact is anticipated to be low.

Note This mixture does not meet criteria for classification under GHS as implemented by Regulation EC No 1272/2008 (EU CLP), WHMIS 2015 (Health Canada), and Hazard Communication Standard No. 1910.1200 (US OSHA).

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
Antibodies	N/A	N/A	<0.1%	Not classified

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Note The primary ingredient of this mixture is sterile water (~98%). The substance listed above is not classified but is listed because it is the key component and its toxicologic properties have not yet been fully characterized. The remaining components are not hazardous and/or present at amounts below reportable limits.

Amounts are listed as ranges; the exact percentage of composition is withheld as a trade secret. See Section 16 for full text of GHS classifications.

SECTION 4 - FIRST AID MEASURES

Description of first aid measures

Immediate Medical Attention Needed	No. If exposed or concerned: Get medical advice/attention.
Eye Contact	If easy to do, remove contact lenses, if worn. Immediately flush eyes with copious quantities of water for at least 15 minutes. If irritation occurs or persists, notify medical personnel and supervisor.
Skin Contact	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
Inhalation	Immediately move exposed subject to fresh air. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Immediately notify medical personnel and supervisor.
Ingestion	Do not induce vomiting unless directed by medical personnel. Do not give anything to drink unless directed by medical personnel. Never give anything by mouth to an unconscious person. Notify medical personnel and supervisor.
Protection of first aid responders	See Section 8 for Exposure Controls/Personal Protection recommendations.
Most important symptoms and effects, both acute and delayed	See Sections 2 and 11.
Indication of immediate medical attention and special treatment needed, if necessary	Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively.

SECTION 5 - FIREFIGHTING MEASURES

Extinguishing media	Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
Specific hazards arising from the substance or mixture	No information identified. May emit carbon monoxide, carbon dioxide, oxides of nitrogen and sulfur, and other cadmium-, chlorine-, phosphorus-, sulfur- and sodium-containing compounds.
Flammability/Explosivity	No explosivity data identified. As product is an aqueous solution, it is not expected to be flammable.
Advice for firefighters	Wear full protective clothing and a self-contained breathing apparatus with a full facepiece operated in the pressure demand or other positive pressure mode. Decontaminate all equipment after use.

SECTION 6 - ACCIDENTAL RELEASE MEASURES



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Personal precautions, protective equipment and emergency procedures	If product is released or spilled, take proper precautions to minimize exposure by using appropriate personal protective equipment (see Section 8). Area should be adequately ventilated. Do not breathe vapors/mist/spray.
Environmental precautions	Do not empty into drains. Avoid release to the environment.
Methods and material for containment and cleaning up	DO NOT CAUSE MATERIAL TO BECOME AIRBORNE. For small spills, soak up material with absorbent, e.g., paper towels. For large spills, cordon off spill area and minimize the spreading of spilled material. Soak up material with absorbent. Collect spilled material, absorbent, and rinse water into suitable containers for proper disposal in accordance with applicable waste disposal regulations (see Section 13). Decontaminate the area twice with an appropriate solvent (see Section 9).
Reference to other sections	See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling	Follow recommendations for handling pharmaceutical agents (i.e., use of engineering controls and/or other personal protective equipment if needed). Avoid contact with eyes, skin and other mucous membranes. Wash thoroughly after handling. Avoid breathing vapor/mist/spray.
Conditions for safe storage including any incompatibilities	Store at 2-8°C in tightly closed container. Avoid strong oxidizers. Store in sealed containers that are appropriately labeled.
Specific end use(s)	No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Note Wash hands, face and other potentially exposed areas immediately in the event of physical contact.

Control Parameters/Occupational Exposure Limit Values

<u>Compound</u>	<u>Issuer</u>	<u>Type</u>	<u>OEL</u>
Antibodies	--	--	--

Exposure/Engineering controls None required for normal handling of packaged product. If handling bulk product: Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. If vials are crushed or broken, or if handling bulk formulation: Utilize closed and sealed systems whenever possible. Solutions used for procedures where aerosolization may occur (e.g., pipetting, spraying, pumping, open transfers,) must be handled using a control device such as a ventilated enclosure. Control the potential for spills and leaks by securing all connections. Use clean-in-place systems.

Respiratory protection None required for normal handling of packaged product. If handling bulk formulation: Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls.

Hand protection None required for normal handling of packaged product. If handling bulk formulation: Wear disposable nitrile or other impervious gloves. Double gloves should be worn for direct handling of solutions. When the material is diluted in an organic solvent, wear gloves that provide protection against the solvent.

Skin protection None required for normal handling of packaged product. If handling bulk formulation: Wear disposable outerwear appropriate to the task, booties, two pairs of gloves and safety glasses with side shields. Employees must be trained in proper gowning and degowning practices. An anteroom or transition area is recommended for gowning and degowning.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION...continued

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Eye/face protection	None required for normal handling of packaged product. If handling bulk formulation: Wear safety glasses with side shields, chemical splash goggles, or full face shield, if necessary. Base the choice of protection on the job activity and potential for contact with eyes or face. An emergency eye wash station should be available.
Environmental Exposure Controls	Avoid release to the environment and operate within closed systems wherever practicable. Air and liquid emissions should be directed to appropriate pollution control devices. In case of spill, do not release to drains. Implement appropriate and effective emergency response procedures to prevent release or spread of contamination and to prevent inadvertent contact by personnel.
Other protective measures	Wash hands in the event of contact with product, especially before eating, drinking or smoking. Protective equipment is not to be worn outside the work area (e.g., in common areas or out-of-doors).

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Aqueous solution
Color	Clear
Odor	No information identified.
Odor threshold	No information identified.
pH	No information identified.
Melting point/freezing point	No information identified.
Initial boiling point and boiling range	No information identified.
Flash point	No information identified.
Evaporation rate	No information identified.
Flammability (solid, gas)	No information identified.
Upper/lower flammability or explosive limits	No information identified.
Vapor pressure	No information identified.

Vapor density	Not applicable.
Relative density	No information identified.
Water solubility	Soluble.
Solvent solubility	No information identified.
Partition coefficient (<i>n</i>-octanol/water)	No information identified.
Auto-ignition temperature	No information identified.
Decomposition temperature	No information identified.
Viscosity	No information identified.
Explosive properties	No information identified.
Oxidizing properties	No information identified.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES...continued

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Other information

Molecular formula Not applicable (Mixture)
Molecular weight Not applicable (Mixture)

SECTION 10 - STABILITY AND REACTIVITY

Reactivity No information identified.
Chemical stability No information identified.
Possibility of hazardous reactions No information identified.
Conditions to avoid No information identified.
Incompatible materials No information identified.
Hazardous decomposition products No information identified.

SECTION 11 - TOXICOLOGICAL INFORMATION

Note No data for this product/mixture were identified. The following data describe the individual ingredients where applicable.

Information on toxicological effects

Route of entry Large proteins are unlikely to be absorbed through inhalation, skin contact, or ingestion.

Acute toxicity
Compound
 Antibodies

<u>Type</u>	<u>Route</u>	<u>Species</u>	<u>Dose</u>
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Irritation/Corrosion No studies identified.

Sensitization No studies identified.

STOT-single exposure No studies identified.

STOT-repeated exposure/Repeat-dose toxicity No studies identified.

Reproductive toxicity No studies identified.

Developmental toxicity No studies identified.

Genotoxicity No studies identified.

Carcinogenicity No studies identified. None of the components of this mixture present at levels greater than or equal to 0.1% are listed by NTP, IARC, ACGIH or OSHA as a carcinogen.

Aspiration hazard No data available.

Human health data See "Section 2 - Other Hazards"

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

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<u>Compound</u> Antibodies	<u>Type</u> --	<u>Species</u> --	<u>Concentration</u> --
Persistence and Degradability	Polypeptides are expected to degrade rapidly when released into the environment.		
Bioaccumulative potential	No data available.		
Mobility in soil	No data available.		
Results of PBT and vPvB assessment	Not performed.		
Other adverse effects	No data available.		
Note	No special precautions are necessary.		

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste treatment methods Dispose of wastes in accordance to prescribed federal, state, and local guidelines, e.g., appropriately permitted chemical waste incinerator. Do not send down the drain or flush down the toilet. All wastes containing the material should be properly labeled. Rinse waters resulting from spill cleanups should be discharged in an environmentally safe manner, e.g., appropriately permitted municipal or on- site wastewater treatment facility.

SECTION 14 - TRANSPORT INFORMATION

Transport Based on the available data, this product/mixture is not regulated as a hazardous material/dangerous good under EU ADR/RID, US DOT, Canada TDG, IATA, or IMDG.

UN number None assigned.

UN proper shipping Name None assigned.

Transport hazard classes and packing group None assigned.

Environmental hazards This product/mixture is not regulated as an environmental hazard or a marine pollutant.

Special precautions for users Avoid release to the environment.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture This SDS generally complies with the requirements listed under current guidelines in the US, EU and Canada. Consult your local or regional authorities for more information.

Chemical safety assessment Not conducted.

TSCA status Not listed.

SARA section 313 Not listed.

SECTION 15 - REGULATORY INFORMATION...continued

California proposition 65 Not listed.

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Additional information No other information identified.

SECTION 16 - OTHER INFORMATION

Full text of H phrases and GHS classifications Not applicable.

Sources of data Information from published literature and internal company data.

Abbreviations ACGIH - American Conference of Governmental Industrial Hygienists; ADR/RID - European Agreement Concerning the International Carriage of Dangerous Goods by Road/Rail; AIHA - American Industrial Hygiene Association; CAS# - Chemical Abstract Services Number; CLP - Classification, Labelling, and Packaging of Substances and Mixtures; DOT - Department of Transportation; EINECS - European Inventory of New and Existing Chemical Substances; ELINCS - European List of Notified Chemical Substances; EU - European Union; GHS - Globally Harmonized System of Classification and Labeling of Chemicals; IARC - International Agency for Research on Cancer; IDLH - Immediately Dangerous to Life or Health; IATA - International Air Transport Association; IMDG - International Maritime Dangerous Goods; NIOSH - The National Institute for Occupational Safety and Health; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PBT - Persistent, Bioaccumulative, and Toxic; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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