

# SAFETY DATA SHEET

Product Identifier: Maxpar® Antibody Labeling Kit (Cd)  
 Catalog ID numbers: 201106-201116

SDS ID: SDS-00001 Rev 2.0

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

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### Contact information

<b>General</b>	Fluidigm Corporation 2 Tower place, Suite 2000, South San Francisco, CA 94080 Main (U.S.): +1 (650) 266-6000 E-mail: techsupport@fluidigm.com
<b>Emergency telephone number</b>	+ (650) 266-6100 (outside US) + (866) 358-4354 (toll free)

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<b>Product identifier</b>	Maxpar® Antibody Labeling Kit (Cd)
<b>Synonyms</b>	None identified
<b>Trade names</b>	None identified
<b>Chemical family</b>	Mixture - contains metal salt.
<b>Relevant identified uses of the substance or mixture and uses advised against</b>	<i>For Research Use Only. Not for use in diagnostic procedures</i>

**Note** This SDS is written to address potential worker health and safety issues associated with the handling of the formulated product/mixture.

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## SECTION 2 - HAZARDS IDENTIFICATION

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### Classification of the substance or mixture

<b>Globally Harmonized System [GHS]</b>	Germ Cell Mutagenicity - Category 2. Carcinogenic - Category 1A. Reproductive Toxicity - Category 2. Specific Target Organ Toxicity (repeated exposure) - Category 2.
<b>Other/Supplemental</b>	AU Hazard Classification (NOHSC) Hazardous Substance. Hazardous goods.

### Label elements

**GHS hazard pictogram**



<b>GHS signal word</b>	Danger
<b>GHS hazard statements</b>	H341 - Suspected of causing genetic defects. H350 - May cause cancer. H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child. H373 - May cause damage to kidney and lung through prolonged or repeated exposure.
<b>GHS precautionary statements</b>	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves/eye protection/face protection. P308 + P313 - IF exposed or concerned: get medical advice/attention.

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## SECTION 2 - HAZARDS IDENTIFICATION...continued

P405 - Store locked up.  
 P501 - Dispose of contents/container to location in accordance with local/regional/national/international regulations.  
 P260 - Do not breathe dust/mist/vapors/spray.

### Other hazards

Contains cadmium nitrate and ammonium acetate. Cadmium nitrate is an eye, skin, and respiratory irritant, and ammonium acetate is an eye and skin irritant. Exposure to cadmium nitrate may cause kidney and lung damage, loss of sense of smell, nose ulceration, shortness of breath, and mild anemia. Cadmium nitrate has been associated with increased incidence of lung cancer and increased incidence of prostate cancer following occupational exposure, although later studies for prostate cancer will not be consistent. Cadmium increased chromosomal aberrations in three of five studies in human peripheral blood lymphocytes of workers exposed to cadmium and other metals. No increase in frequency of chromosomal aberrations were seen in workers from a cadmium pigment plant. No increase in sister chromatid exchanges was seen in one study of workers exposed to cadmium.

### Note

This substance is classified as hazardous according to Regulation EC No 1272/ 2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA).

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS #	EINECS/ ELINCS#	Amount	GHS Classification
Cadmium (II) Nitrate	10325-94-7	233-710-6	1.2%	ATO3: H301; GCM2: H341; CARC1A: H350; RT2: H361fd; STOT-R1: H372; E12: H320, SI2: H315; OS3: H272
Ammonium Acetate	631-61-8	211-162-9	<1%	EI2: H319; SI2: H315; AA3: H402; CD1

### Note

The ingredient(s) listed above are considered dangerous/hazardous. The remaining components are non-hazardous and/or present at amounts below reportable limits. See Section 16 for full text of GHS classifications.

## SECTION 4 - FIRST AID MEASURES

### Description of first aid measures

#### Immediate Medical Attention Needed

Yes.

#### 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.

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## SECTION 4 - FIRST AID MEASURES ... continued

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<b>Protection of first aid responders</b>	See Section 8 for Exposure Controls/Personal Protection recommendations.
<b>Most important symptoms and effects, both acute and delayed</b>	See Sections 2 and 11.
<b>Indication of immediate medical attention and special treatment needed, if necessary</b>	Medical conditions aggravated by exposure: None known or reported. Treat symptomatically and supportively. If accidental exposure occurs to an individual who is also taking one or more concomitant medications, consult the respective package or prescribing information for potential drug interactions.

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## SECTION 5 - FIREFIGHTING MEASURES

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<b>Extinguishing media</b>	Use water spray (fog), foam, dry powder, or carbon dioxide, as appropriate for surrounding fire and materials.
<b>Specific hazards arising from the substance or mixture</b>	May emit carbon monoxide, carbon dioxide, nitrogen-, chloride-, and metal-containing compounds.
<b>Flammability/Explosivity</b>	Not expected to be flammable or explosive.
<b>Advice for firefighters</b>	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.

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## SECTION 6 - ACCIDENTAL RELEASE MEASURES

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<b>Personal precautions, protective equipment and emergency procedures</b>	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 mist/vapors/spray.
<b>Environmental precautions</b>	Do not empty into drains. Avoid release to the environment.
<b>Methods and material for containment and cleaning up</b>	If vials are crushed or broken, 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.
<b>Reference to other sections</b>	See Sections 8 and 13 for more information.

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## SECTION 7 - HANDLING AND STORAGE

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<b>Precautions for safe handling</b>	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.
<b>Conditions for safe storage including any incompatibilities</b>	Keep from contact with clothing and other combustible materials. Store at 2-8°C in tightly closed container. Avoid strong oxidizers. Store in sealed containers that are appropriately labeled. Do not store in metal or glass containers. Do not store in direct sunlight. Do not store near organic substances.

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## SECTION 7 - HANDLING AND STORAGE...continued

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<b>Specific end use(s)</b>	No information identified.
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## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

**Note** Dispose of broken vials/syringes in a sharps container.

**Control Parameters/Occupational Exposure Limit Values**

<u>Compound</u>	<u>Issuer</u>	<u>Type</u>	<u>OEL</u>
Cadmium (II) Nitrate	OSHA	PEL	0.005 mg/m <sup>3</sup>
	ACGIH	TLV	0.01 mg/m <sup>3</sup>

**Exposure/Engineering controls** None required for normal handling of packaged product. If handling bulk product and/or vials are opened/crushed/broken: Selection and use of containment devices and personal protective equipment should be based on a risk assessment of exposure potential. Use local exhaust and/or enclosure at mist/aerosol/spray-generating points. Emphasis is to be placed on closed material transfer systems and process containment, with limited open handling. High-energy operations such as spraying or fluidizing should be done within an approved emission control or containment system.

**Respiratory protection** None required for normal handling of packaged product. If handling bulk product and/or vials are opened/crushed/broken: Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. For routine handling tasks, an approved and properly fitted air-purifying respirator with appropriate HEPA filters should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls. Use a powered air-purifying respirator equipped with appropriate HEPA filters or combination filters or a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, when exposure levels are not known, or in any other circumstances where a lower level of respiratory protection may not provide adequate protection.

**Hand protection** None required for normal handling of packaged product. If handling bulk product and/or vials are opened/crushed/broken: Wear nitrile or other impervious gloves if skin contact is possible. When the material is dissolved or suspended in an organic solvent, wear gloves that provide protection against the solvent.

**Skin protection** Wear appropriate gloves, lab coat, or other protective overgarment if skin contact is likely. Base the choice of skin protection on the job activity, potential for skin contact and solvents and reagents in use.

**Eye/face protection** 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).

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**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

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**Information on basic physical and chemical properties**

<b>Appearance</b>	Clear liquid
<b>Color</b>	Colorless
<b>Odor</b>	No information identified.
<b>Odor threshold</b>	No information identified.
<b>pH</b>	No information identified.
<b>Melting point/freezing point</b>	No information identified.
<b>Initial boiling point and boiling range</b>	No information identified.
<b>Flash point</b>	No information identified.
<b>Evaporation rate</b>	No information identified.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	No information identified.
<b>Vapor pressure</b>	No information identified.
<b>Vapor density</b>	No information identified.
<b>Relative density</b>	No information identified.
<b>Water solubility</b>	Fully soluble.
<b>Solvent solubility</b>	No information identified.
<b>Partition coefficient (n-octanol/water)</b>	No information identified.
<b>Auto-ignition temperature</b>	No information identified.
<b>Decomposition temperature</b>	No information identified.
<b>Viscosity</b>	No information identified.
<b>Explosive properties</b>	No information identified.
<b>Oxidizing properties</b>	For Cadmium nitrate: Strong oxidizing agent.

**Other information**

<b>Molecular formula</b>	Not applicable (Mixture)
<b>Molecular weight</b>	Not applicable (Mixture)

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**SECTION 10 - STABILITY AND REACTIVITY**

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<b>Reactivity</b>	No information identified.
<b>Chemical stability</b>	No information identified.

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## SECTION 10 - STABILITY AND REACTIVITY ...continued

**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 limited data that was available on product formulation. The following information is for the ingredients where applicable.

### Information on toxicological effects

**Route of entry** May be absorbed by inhalation, skin contact and ingestion.

### Acute toxicity

Compound	Type	Route	Species	Dose
Cadmium (II) Nitrate	LD50	Oral	Rat	300 mg/kg
	LD50	Oral	Mouse	47 mg/kg
Ammonium Acetate	LD50	Intravenous	Mice	98 mg/kg
	LD50	Intraperitoneal	Rat	632 mg/kg
	LD50	Intraperitoneal	Mice	736 mg/kg

**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** Parenteral administration of cadmium salts produced adverse effects on the testes and ovaries in animal studies. Many of these effects were preventable by administration of zinc compounds (no further details were identified).

**Developmental toxicity** Adverse effects on the placenta, and fetal anemia, growth retardation, teratogenicity, and embryonic and fetal death have been observed following cadmium administration by oral, inhalation, and/or parenteral administration routes. No further details were identified.

**Genotoxicity** Positive in an Ames test. Cadmium was positive in a number of *in vivo* and *in vitro* assays for DNA strand breaks, mutations, chromosomal damage, aneuploidy, and cell transformation.

**Carcinogenicity** Various cadmium salts have been associated with leukemia, malignant tumors of the male reproductive system (including prostate, interstitial cell tumors of the testis) and lung, and benign injection site tumors following oral, intramuscular, subcutaneous, and/or inhalation studies in mice and rats. Doses and durations were not identified. Zinc deficiency appears to increase the carcinogenic potential of cadmium following systemic or inhalation exposure. Effects may be reduced or preventable by administration of zinc compounds. Cadmium is listed as a Group 1 (human carcinogen) by IARC, a known carcinogen by NTP and OSHA, and an A2 (suspected human carcinogen) by ACGIH.

**Aspiration hazard** No data available.

**Human health data** See "Section 2 - Other Hazards"

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## SECTION 12 - ECOLOGICAL INFORMATION

### Toxicity

<u>Compound</u>	<u>Type</u>	<u>Species</u>	<u>Concentration</u>
Cadmium (II) Nitrate	EC <sub>50</sub> (30 minute)	Microtox	1.62 mg/L
Ammonium Acetate	LC <sub>50</sub> /48h	Cyprinus carpio	1.06 mg/L

### Persistence and Degradability

Persistence is unlikely based on water solubility.

### Bioaccumulative potential

No data identified for the mixture. Cadmium is able to bioaccumulate in both flora and fauna, and has potential to biomagnify in some food chains.

### Mobility in soil

No data available.

### Results of PBT and vPvB assessment

Not performed.

### Other adverse effects

No data available.

### Note

The environmental characteristics of this product/mixture have not been fully investigated. Releases to the environment should be avoided.

## 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.

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## SECTION 15 - REGULATORY INFORMATION...continued

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<b>Chemical safety assessment</b>	Not conducted.
<b>TSCA status</b>	Not listed.
<b>SARA section 313</b>	Not listed.
<b>California proposition 65</b>	Not listed.
<b>Additional information</b>	No other information identified.

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## SECTION 16 - OTHER INFORMATION

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**Full text of H phrases and GHS classifications** GCM2 - Germ Cell Mutagenicity Category 2. H341 - Suspected of causing genetic defects. Carc1A - Carcinogenicity Category 1A. H350 - May cause cancer. H361fd - Suspected of damaging fertility. Suspected of damaging the unborn child. RT2 - Reproductive toxicity Category 2. H373 - May cause damage to kidney and/or lung through prolonged or repeated exposure. STOT-R2 - Specific Target Organ Toxicity Following Repeated Exposure Category 2. STOT-R1 - Specific Target Organ Toxicity Following Repeat Exposure Category 1. H372 - Causes damage to kidney and/or lung through prolonged or repeated exposure. ATO3 - Acute Toxicity (Oral) Category 3. H301 - Toxic if swallowed. OS3 - Oxidizing Solid Category 3. H272 - May intensify fire; oxidizer. SI2 - Skin irritant Category 2. H315 - Causes skin irritation. E12 - Eye irritant Category 2. H320 - Causes eye irritation. AA3- Acute aquatic toxicity Category 3. H402 - Harmful to aquatic life. H319 - Causes serious eye irritation.

**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; DNEL - Derived No Effect Level; 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; LOEL - Lowest Observed Effect Level; LOAEL - Lowest Observed Adverse Effect Level; NIOSH - The National Institute for Occupational Safety and Health; NOEL - No Observed Effect Level; NOAEL - No Observed Adverse Effect Level; NTP - National Toxicology Program; OEL - Occupational Exposure Limit; OSHA - Occupational Safety and Health Administration; PBT - Persistent, Bioaccumulative, and Toxic; PNEC - Predicted No Effect Concentration; SARA - Superfund Amendments and Reauthorization Act; STOT - Specific Target Organ Toxicity; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

**Issue Date** May-2020

**Revisions** Revision 02: CHG-001511  
Summary of revision: Updated Fluidigm Corporate Address in section 1, Issue date and revision in headed, footer and section 16.





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## **SECTION 16 - OTHER INFORMATION**

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### **Disclaimer**

Supplier gives no warranty whatsoever, including the warranties of merchantability or of fitness for a particular purpose. Any product purchased is sold on the assumption the purchaser shall determine the quality and suitability of the product. This product is intended for use only by persons having the necessary technical skills and facilities for handling the product at their discretion and risk. Supplier expressly disclaims any and all liability for incidental, consequential or any other damages arising out of the use or misuse of this product. No information provided shall be deemed to be a recommendation to use any product in conflict with any existing patent rights. Read the Material Safety Data Sheet before handling product.



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