

SAFETY DATA SHEET

Product Identifier: Cell-ID™ IdU

Catalog ID number: Cat# 201127 (stand-alone and Panel Kit catalog ID 201313)

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	Cell-ID™ IdU
Synonyms	None identified
Trade names	None identified
Chemical family	Mixture - contains 5-Iodo-2'-deoxyuridine, and Dimethyl Sulfoxide
Relevant identified uses of the substance or mixture and uses advised against	For research use only. Not for use in diagnostic procedures.
Note	This SDS is written to address potential health and safety issues associated with the handling of the formulated product.
Issue Date	May-2020

SECTION 2 - HAZARDS IDENTIFICATION

Classification of the substance or mixture

Globally Harmonized System [GHS]	Flammable Liquid (Category 4), H227. Skin irritation (Category 2). Eye irritation (Category 2A). Germ cell mutagenicity (Category 2). Reproductive toxicity (Category 2). Specific target organ toxicity - single exposure (Category 3)
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Label elements

CLP/GHS hazard pictogram	
CLP/GHS signal word	Warning
CLP/GHS hazard statements	H227 - Combustible. H315 - Causes skin irritation. H319 - Cause serious eye irritation. H335 - May cause respiratory irritation. H341 - Suspected of causing genetic defects. H361 - Suspected of damaging fertility or the unborn child.
CLP/GHS precautionary statements	P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking. P261 - Avoid breathing dust/fume/gas/mist/vapors/spray. P280 - Wear protective gloves/protective clothing/eye protection/face protection. P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction. P403 + P235 - Store in a well-ventilated place. Keep cool. P501 - Dispose of contents/ container to an approved waste disposal plant. P305; P351; P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
5-Iodo-2'-deoxyuridine	54-42-2	200-207-8	1.77%	Skin Irrit. 2; Eye Irrit. 2A; Muta. 2; Repr. 2; H315, H319, H335, H341, H361
Dimethyl Sulfoxide	67-68-5	200-664-3	100%	Flam. Liq. 4; H227

Note The ingredient(s) listed above are considered 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.
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	No data available.

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	Carbonyl oxides, nitrogen oxides (NOx), Hydrogen iodide, Sulphur oxides.
Flammability	Combustible.
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.

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SECTION 6 - ACCIDENTAL RELEASE MEASURES

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 mist/vapors/spray.
Environmental precautions	Do not empty into drains. Avoid release to the environment.
Methods and material for containment and cleaning up	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.
Reference to other sections	See Sections 8 and 13 for more information.

SECTION 7 - HANDLING AND STORAGE

Precautions for safe handling	Avoid breathing vapor or mist. Do not permit eating/drinking/smoking near this material. All materials used for transferring or preparing this product must be considered contaminated and disposed of properly.
Conditions for safe storage including any incompatibilities	Store at -20°C, keep container tightly closed in a dry and well-ventilated place. Light sensitive. Keep away from sources of ignition.
Specific end use(s)	No information identified.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure/Engineering controls	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Respiratory protection	Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection	Wear nitrile or other impervious gloves if skin contact is possible. When the material is diluted 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 this product/mixture, 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

Information on basic physical and chemical properties

Appearance	Clear liquid
Color	Colorless
Odor	Odorless.
Odor threshold	No information identified.
pH	No information identified.
Melting point/freezing point	16 – 19 °C (61 – 66 °F).
Initial boiling point and boiling range	189 °C (372 °F)
Flash point	87 °C (189 °F) – closed cup.
Evaporation rate	No information identified.
Flammability (solid, gas)	No information identified.
Upper/lower flammability or explosive limits	42%(V); Lower explosion limit: 3.5%(V).
Vapor pressure	0.55 hPa (0.41 mmHg) at 20 °C (68 °F).
Vapor density	2.70 – (Air = 1.0).
Relative density	1.1 g/ml.
Water solubility	Completely miscible.
Solvent solubility	No information identified.
Partition coefficient (<i>n</i>-octanol/water)	noctanol/water log Pow: -2.03.
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.

Other information

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

SECTION 10 - STABILITY AND REACTIVITY

Reactivity	No data available
Chemical stability	Stable under normal temperatures and pressures.
Possibility of hazardous reactions	No information identified.

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Conditions to avoid	Heat, flames and sparks.
Incompatible materials	Acid chlorides, Phosphorus halides, Strong acids, Strong oxidizing agents, Strong reducing agents.
Hazardous decomposition products	Other decomposition products – No data available.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on toxicological effects

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

Acute toxicity

<u>Compound</u>	<u>Type</u>	<u>Route</u>	<u>Species</u>	<u>Dose</u>
5-Iodo-2'-deoxyuridine	LD50	Oral	Mouse	10,000 mg/kg
	LD50	Intraperitoneal	Mouse	1,000 mg/kg
Dimethyl Sulfoxide	LD50	Oral	Rat	14,500 mg/kg
	LD50	Dermal	Rabbit	>5,000 mg/kg
	LC50/4h	Inhalation	Rat	40250 ppm

Irritation/Corrosion No studies identified.

Sensitization No studies identified.

STOT-single exposure Inhalation – May cause respiratory irritation

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

Reproductive toxicity Suspected human reproductive toxicant. Damage to fetus cannot be excluded.

Developmental toxicity No studies identified.

Genotoxicity No studies identified.

Carcinogenicity Rat – oral. Tumorigenic: Equivocal tumorigenic agent by RTECS criteria.

Aspiration hazard No data available.

SECTION 12 - ECOLOGICAL INFORMATION

Toxicity

<u>Compound</u>	<u>Type</u>	<u>Species</u>	<u>Concentration</u>
Dimethyl Sulfoxide	LC50/96h	Oncorhynchus mykiss	35,000 mg/L
	LC50/96h	Pimephales promelas	34,000 mg/L
	EC50/48h	Daphnia magna	24,600 mg/L
	EC50/72h	Pseudokirchneriella subcapitata	17,000 mg/L

Persistence and Degradability No data identified.

Bioaccumulative potential No data identified.

Mobility in soil No data identified.

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

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Other adverse effects No data identified.

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 De minimis exemption. Hazardous ingredients are in excepted quantities. The concentration of hazardous material in this product's composition is below that which is regulated for transport.
D.O.T.: This solution is considered non-hazardous for transport.
IMDG: This solution is considered non-hazardous for transport.
IATA: This solution is considered non-hazardous for air transport.

UN number None assigned.

UN proper shipping name None assigned.

Transport hazard classes and packing group None assigned

Special precautions for users No special precautions needed. Avoid release to the environment.

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

Hazardchem Code/HIN None assigned.

SECTION 15 - REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture This SDS complies with the requirements under US, EU and GHS (EU CLP - Regulation EC No 1272/2008) guidelines. Consult your local/regional authorities for more information.

Chemical safety assessment Not conducted.

WHMIS classification(Canada) B/3 - Combustible liquid.

SARA section 313 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California proposition 65 This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Federal and State Regulations: TSCA 8(b) inventory: Dimethyl sulfoxide

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Component Analysis – Chemical Inventory Dimethyl sulfoxide is listed in the chemical inventory of the following countries: USA, Australia, Canada, China, EU, Japan, Korea, New Zealand, and the Philippines.

Additional information No other information identified.

SECTION 16 - OTHER INFORMATION

NFPA Ratings	IdU DMSO	Health: 1 Health: 0	Fire: 0 Fire: 2	Reactivity: 0 Reactivity: 0
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Full text of H phrases and GHS classifications Skin Irrit. Skin irritation. Eye Irrit. Eye irritation. Muta. Germ cell mutagenicity. Repr. Reproductive toxicity. H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H341 Suspected of causing genetic defects. H361 Suspected of damaging fertility or the unborn child. Flam. Liz. Flammable liquids. H227 Combustible liquid.

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; CA - California; 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; HI - Hawaii; 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; MA - Massachusetts; MN - Minnesota; NJ - New Jersey; 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; PA - Pennsylvania; PNEC - Predicted No Effect Concentration; RI - Rhode Island; SARA - Superfund Amendments and Reauthorization Act; STEL - Short Term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; VT - Vermont; WA - Washington; WHMIS - Workplace Hazardous Materials Information System

Revisions Revision 4.0; CHG-001511
 Summary of revision: Updated Fluidigm Corporate Address in section 1, Issue date and revision in footer section 1 and 16.

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