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
7000 Shoreline Court Suite 100, 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
25 June 2015

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)

Label elements

CLP/GHS hazard pictogram

CLP/GHS signal word
Warning

CLP/GHS hazard statements

CLP/GHS precautionary statements
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SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

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

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.
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/PERSOHAL 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).
## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information identified</td>
</tr>
<tr>
<td>pH</td>
<td>No information identified</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>16 – 19 °C (61 – 66 °F)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>189 °C (372 °F)</td>
</tr>
<tr>
<td>Flash point</td>
<td>87 °C (189 °F) – closed cup.</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information identified</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information identified</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td>42%(V); Lower explosion limit: 3.5%(V).</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>0.55 hPa (0.41 mmHg) at 20 °C (68 °F).</td>
</tr>
<tr>
<td>Vapor density</td>
<td>2.70 – (Air = 1.0).</td>
</tr>
<tr>
<td>Relative density</td>
<td>1.1 g/ml.</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Completely miscible.</td>
</tr>
<tr>
<td>Solvent solubility</td>
<td>No information identified</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>noctanol/water log Pow: -2.03.</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>No information identified</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No information identified</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information identified</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No information identified</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>No information identified</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>Molecular weight</td>
<td>Not applicable (Mixture)</td>
</tr>
<tr>
<td>Molecular formula</td>
<td>Not applicable (Mixture)</td>
</tr>
</tbody>
</table>

## SECTION 10 - STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reactivity</td>
<td>No data available</td>
</tr>
<tr>
<td>Chemical stability</td>
<td>Stable under normal temperatures and pressures.</td>
</tr>
<tr>
<td>Possibility of hazardous reactions</td>
<td>No information identified.</td>
</tr>
</tbody>
</table>
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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

<table>
<thead>
<tr>
<th>Compound</th>
<th>Type</th>
<th>Route</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-Iodo-2'-deoxyuridine</td>
<td>LD50</td>
<td>Oral</td>
<td>Mouse</td>
<td>10,000 mg/kg</td>
</tr>
<tr>
<td>Dimethyl Sulfoxide</td>
<td>LD50</td>
<td>Intraperitoneal</td>
<td>Mouse</td>
<td>1,000 mg/kg</td>
</tr>
<tr>
<td></td>
<td>LD50</td>
<td>Oral</td>
<td>Rat</td>
<td>14,500 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt;5,000 mg/kg</td>
</tr>
</tbody>
</table>

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

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

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

<table>
<thead>
<tr>
<th>NFPA Ratings</th>
<th>1dU</th>
<th>Health: 1</th>
<th>Fire: 0</th>
<th>Reactivity: 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td></td>
<td>Health: 0</td>
<td>Fire: 2</td>
<td>Reactivity: 0</td>
</tr>
</tbody>
</table>

Full text of H phrases and GHS classifications

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
This is the first version of this SDS.

Disclaimer
The statements contained herein are offered for informational purposes only and are based upon technical data. Fluidigm Corporation believes them to be accurate at the date of publication, but does not purport to be all-inclusive. The above-stated product is intended for use only by persons having the necessary technical skills and facilities for handling the product at their discretion and risk. Since conditions and manner of use are outside our control, we (Fluidigm Corporation) make no warranty of merchantability or any such warranty, express or implied with respect to information and we assume no liability resulting from the above product or its use. Users should perform their own investigations to determine suitability of information and product for their particular purposes.