

# Safety Data Sheet



Revision Date 2022-12-25

Revision Number 6

## 1. Identification

### Product identifier

**Product Name** SMART-Seq ICELL8 Forward Indexing Primer Set 1-72

### Other means of identification

**Product Code** ST1849

**Synonyms** No information available

### Recommended use of the chemical and restrictions on use

**Identified uses** No information available

**Restrictions on use** No information available

### Details of the supplier of the safety data sheet

#### Supplier

USA:

Takara Bio USA, Inc.

2560 Orchard Parkway

San Jose, CA 95131, USA

Phone: 800.662.2566/888.251.6618

Web: www.takarabio.com

### Emergency telephone number

**Emergency telephone** In case of emergency, call PERS (Professional Emergency Resource Services) 1-800-633-8253 (US) or 801-629-0667 (international).

## 2. Hazard(s) identification

### Product Classification Data

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Serious eye damage/eye irritation	Category 2A
Carcinogenicity	Category 1B
Reproductive toxicity	Category 1B

### Hazards not otherwise classified (HNOC)

Not applicable

### Label elements

**Danger**

#### Hazard statements

Harmful if inhaled

Causes serious eye irritation

May cause cancer

May damage fertility or the unborn child



**Appearance** Clear, colorless

**Physical state** Liquid

**Odor** Amine

**Precautionary Statements - Prevention**

Obtain special instructions before use  
Do not handle until all safety precautions have been read and understood  
Wear protective gloves/protective clothing/eye protection/face protection  
Avoid breathing dust/fume/gas/mist/vapors/spray  
Use only outdoors or in a well-ventilated area  
Wash face, hands and any exposed skin thoroughly after handling

**Precautionary Statements - Response**

IF exposed or concerned: Get medical advice/attention  
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
If eye irritation persists: Get medical advice/attention  
IF INHALED: Remove person to fresh air and keep comfortable for breathing

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other information**

May be harmful in contact with skin.

### 3. Composition/information on ingredients

**Substance**

Not applicable.

**Mixture**

Chemical name	CAS No	Weight-%	Trade secret
N,N-Dimethylformamide	68-12-2	40 - 50	*

### 4. First-aid measures

**Description of first aid measures**

**General advice**

IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

**Inhalation**

Remove to fresh air. If symptoms persist, call a physician. If breathing has stopped, give artificial respiration. Get medical attention immediately.

**Eye contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open

while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists.

**Skin contact**

Wash skin with soap and water.

**Ingestion**

Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Get medical attention.

**Self-protection of the first aider**

Avoid contact with skin, eyes or clothing. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information.

**Most important symptoms and effects, both acute and delayed**

**Symptoms**

May cause redness and tearing of the eyes. Burning sensation. Coughing and/ or wheezing. Difficulty in breathing.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians**

Treat symptomatically.

**5. Fire-fighting measures**

**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Large Fire**

CAUTION: Use of water spray when fighting fire may be inefficient.

**Unsuitable extinguishing media**

Do not scatter spilled material with high pressure water streams.

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** None.

**Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions**

Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Avoid breathing vapors or mists.

**Other information**

Refer to protective measures listed in Sections 7 and 8.

**Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Pick up and transfer to properly labeled containers.

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Remove contaminated clothing and shoes. Avoid breathing vapors or mists. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

### Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Store locked up. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children.

## 8. Exposure controls/personal protection

### Control parameters

#### Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
N,N-Dimethylformamide 68-12-2	TWA: 5 ppm S*	TWA: 10 ppm TWA: 30 mg/m <sup>3</sup> (vacated) TWA: 10 ppm (vacated) TWA: 30 mg/m <sup>3</sup> (vacated) S* S*	IDLH: 500 ppm TWA: 10 ppm TWA: 30 mg/m <sup>3</sup>

#### Biological occupational exposure limits

Chemical name	ACGIH
N,N-Dimethylformamide 68-12-2	30 mg/L - urine (Total N-methylformamide) - end of shift 30 mg/L - urine (N-Acetyl-S-(N-methylcarbamoyl)cysteine) - end of shift at end of workweek

### Appropriate engineering controls

#### Engineering controls

Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

If splashes are likely to occur, wear safety glasses with side-shields.

#### Hand protection

Wear suitable gloves.

#### Skin and body protection

Wear suitable protective clothing.

#### Respiratory protection

No protective equipment is needed under normal use conditions. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.

#### General hygiene considerations

Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear, colorless
<b>Color</b>	No information available
<b>Odor</b>	Amine
<b>Odor Threshold</b>	No information available

Property	Values	Remarks • Method
pH	No data available	None known
Melting point / freezing point	No data available	None known
Boiling point/boiling range (°C)	No data available	None known
Flash point	No data available	Open cup
Evaporation Rate	No data available	None known
Flammability (solid, gas)	No data available	None known
Flammability Limit in Air		None known
Upper flammability limit:	No data available	
Lower flammability limit:	No data available	
Vapor pressure	No data available	None known
Vapor density	No data available	None known
Relative density	No data available	None known
Water solubility	No data available	None known
Solubility in other solvents	No data available	None known
Partition coefficient	No data available	None known
Autoignition temperature	445 °C / 833 °F	None known
Decomposition temperature		None known
Kinematic viscosity	No data available	None known
Dynamic Viscosity	No data available	None known

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available
<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content</b>	No information available
<b>Liquid Density</b>	No information available
<b>Bulk Density</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to Avoid</b>	Excessive heat.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Information on likely routes of exposure

#### Product Information

<b>Inhalation</b>	Specific test data for the substance or mixture is not available. May cause irritation of
-------------------	---

- respiratory tract. Harmful by inhalation. (based on components).
- Eye contact** Specific test data for the substance or mixture is not available. Causes serious eye irritation. (based on components). May cause redness, itching, and pain.
- Skin contact** Specific test data for the substance or mixture is not available. May cause irritation. Prolonged contact may cause redness and irritation. May be harmful in contact with skin.
- Ingestion** Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

**Symptoms related to the physical, chemical and toxicological characteristics**

**Symptoms** May cause redness and tearing of the eyes. Coughing and/ or wheezing.

**Acute toxicity**

**Numerical measures of toxicity**

The following values are calculated based on chapter 3.1 of the GHS document

- ATEmix (oral)** 14,166.60 mg/kg  
**ATEmix (dermal)** 2,291.70 mg/kg  
**ATEmix (inhalation-dust/mist)** 3.12 mg/l

**Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
N,N-Dimethylformamide 68-12-2	= 2800 mg/kg ( Rat )	= 1100 mg/kg ( Rat )	> 5.85 mg/L ( Rat ) 4 h

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

- Skin corrosion/irritation** May cause skin irritation.
- Serious eye damage/eye irritation** Classification based on data available for ingredients. Causes serious eye irritation.
- Respiratory or skin sensitization** No information available.
- Germ cell mutagenicity** No information available.

**Carcinogenicity** Contains a known or suspected carcinogen. Classification based on data available for ingredients. May cause cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
N,N-Dimethylformamide 68-12-2	A3	Group 2A	-	X

**Legend**

- ACGIH (American Conference of Governmental Industrial Hygienists)**  
A3 - Animal Carcinogen  
**IARC (International Agency for Research on Cancer)**  
Group 2A - Probably Carcinogenic to Humans  
**OSHA (Occupational Safety and Health Administration of the US Department of Labor)**  
X - Present

**Reproductive toxicity** Contains a known or suspected reproductive toxin. Classification based on data available

for ingredients. May damage fertility or the unborn child.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target organ effects** Liver, Kidney, Respiratory system, Eyes, Skin, Central Vascular System (CVS).

**Aspiration hazard** No information available.

**Other adverse effects** No information available.

**Interactive effects** No information available.

## 12. Ecological information

### Ecotoxicity

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
N,N-Dimethylformamide 68-12-2	EC50: >500mg/L (96h, Desmodesmus subspicatus)	LC50: =6300mg/L (96h, Lepomis macrochirus) LC50: =9800mg/L (96h, Oncorhynchus mykiss) LC50: =10410mg/L (96h, Pimephales promelas)	-	EC50: =7500mg/L (48h, Daphnia magna) EC50: =8485mg/L (48h, Daphnia magna) EC50: 6800 - 13900mg/L (48h, Daphnia magna)

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

### Component Information

Chemical name	Partition coefficient
N,N-Dimethylformamide 68-12-2	-1.028

**Other adverse effects** No information available.

## 13. Disposal considerations

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

**DOT** Not regulated

## 15. Regulatory information

### International Inventories

**TSCA** -.

\*Contact supplier for details. One or more substances in this product are either not listed on the US TSCA inventory, listed on the confidential US TSCA inventory or are otherwise exempted from inventory listing requirements

**DSL/NDSL** -.  
**EINECS/ELINCS** -.  
**ENCS** -.  
**IECSC** -.  
**KECL** -.  
**PICCS** -.  
**AICS** -.

**Legend:**

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

### US Federal Regulations

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical name	SARA 313 - Threshold Values %
N,N-Dimethylformamide - 68-12-2	0.1

**SARA 311/312 Hazard Categories**

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

**CWA (Clean Water Act)**

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
N,N-Dimethylformamide	100 lb	-	RQ 100 lb final RQ



68-12-2			RQ 45.4 kg final RQ
---------	--	--	---------------------

**US State Regulations**

**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical name	California Proposition 65
N,N-Dimethylformamide - 68-12-2	Carcinogen

**U.S. State Right-to-Know Regulations**

Chemical name	New Jersey	Massachusetts	Pennsylvania
N,N-Dimethylformamide 68-12-2	X	X	X

**U.S. EPA Label Information**

**EPA Pesticide Registration Number** Not applicable

**16. Other information**

<b>NFPA</b>	<b>Health hazards</b> 2	<b>Flammability</b> 1	<b>Instability</b> 0	<b>Special hazards</b> -
<b>HMIS</b>	<b>Health hazards</b> 2 *	<b>Flammability</b> 1	<b>Physical hazards</b> 0	<b>Personal protection</b> X
<i>Chronic Hazard Star Legend</i>	<i>* = Chronic Health Hazard</i>			

**Key or legend to abbreviations and acronyms used in the safety data sheet**

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	Time weighted average	STEL	Short term exposure limit
Ceiling	Maximum limit value	*	Skin designation

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Food Safety Authority (EFSA)  
 EPA (Environmental Protection Agency)  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 Japan GHS Classification  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Revision Date** 2022-12-25  
**Revision Note** No information available.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its

---

publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**