

# SAFETY DATA SHEET

**Product Identifier: Advanta™ NGS Library Prep Reagent Kit –LP 48.48**  
**Catalog ID number: Cat# 101-7663, 101-7665, 101-0741, 101-7666**

**SDS ID: 101-7794 Revision A1**

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

### Contact information

<b>General</b>	Fluidigm Corporation 7000 Shoreline Court Suite 100, 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)

<b>Product identifier</b>	Advanta™ NGS Library Prep Reagent Kit –LP 48.48
<b>Synonyms</b>	None identified
<b>Trade names</b>	None identified
<b>Chemical family</b>	Mixture
<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 health and safety issues associated with the handling of this reagent kit. For occupational health and safety issues associated with manufacture of this kit, please consult the SDSs of the individual ingredients.

## SECTION 2 - HAZARDS IDENTIFICATION

**This product contains eight (8) parts. The following provides the hazard classification for each part.**

### Part 1: TSP Sample Loading Reagent V2 (Part #: 101-7634)

#### Classification of the substance or mixture

<b>Globally Harmonized System [GHS]</b>	Corrosive (eye) – Category 1.
<b>AU Hazard Classification (NOHSC)</b>	Hazardous Substance. Hazardous goods.

#### Label elements

##### GHS hazard pictogram



**GHS signal word** Danger

**GHS hazard statements** H318 – Causes serious eye damage.

**GHS precautionary statements** P280 - Wear protective gloves/eye protection/face protection. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a Poison Center or doctor/physician.

**Other hazards** May cause eye corrosion/irritation. Part/mixture not yet fully tested.

**Note** This part of the product is classified as hazardous according to Regulation EC No 1272/2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of this part/mixture have not been fully characterized.

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**Part 2: TSP Adapter Mix (Part #: 101-0408)**

**Classification of the substance or mixture**

**Globally Harmonized System [GHS]** Corrosive (eye) – Category 1.

**AU Hazard Classification (NOHSC)** Hazardous Substance. Hazardous goods.

**Label elements**

**GHS hazard pictogram**



**GHS signal word** Danger

**GHS hazard statements** H318 – Causes serious eye damage.

**GHS precautionary statements** P280 - Wear protective gloves/eye protection/face protection. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P310 - Immediately call a Poison Center or doctor/physician.

**Other hazards** May cause skin/eye corrosion/irritation. Part/mixture not yet fully tested.

**Note** This part of the product is classified as hazardous according to Regulation EC No 1272/2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of this part/mixture have not been fully characterized.

**Part 3: TSP Assay Loading Reagent (Part #: 101-0409)**

**Classification of the substance or mixture**

**Globally Harmonized System [GHS]** Irritant (eye) – Category 2. Respiratory sensitizer – Category 1.

**AU Hazard Classification (NOHSC)** Hazardous Substance. Hazardous goods.

**Label elements**

**GHS hazard pictogram**



**GHS signal word** Danger

**GHS hazard statements** H319 – Causes serious eye irritation. H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**GHS precautionary statements** P261 - Avoid breathing mist or vapor. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves/eye protection/face protection. P285 – In case of inadequate ventilation wear respiratory protection. P304 + P341 – IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice/attention. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician. P501 - Dispose of contents/container to location in accordance with local/regional/national/international regulations.

**Other hazards** May cause eye/skin corrosion/irritation and/or respiratory sensitization. Part/mixture not yet fully tested.

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**Note** This part of the product is classified as hazardous according to Regulation EC No 1272/2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of this part/mixture have not been fully characterized.

**Part Description and Number** **GHS and Australian Hazard Classification**

**Part 4: TSP DNA Polymerase (Part #: 101-0995)** None required.  
**Part 5: DNA Dilution RGT (Part #: 100-9167)** None required.  
**Part 6: TSP Harvest Reagent (Part #: 101-0743)** None required.  
**Part 7: TSP Master Mix (Part #: 101-3050/101-3055)** None required.  
**Part 8: PCR Water (Part #: 100-5941)** None required.

**Other hazards** Parts of the kit may cause eye/skin irritation. Product/mixture not yet fully tested.

**Note** Parts 4-8 are not classified as hazardous according to Regulation EC No 1272/2008 (EU CLP) and Hazard Communication Standard No. 1910.1200 (US OSHA). The pharmacological, toxicological and ecological properties of this part/mixture have not been fully characterized.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

**Part 1: TSP Sample Loading Reagent (Part #: 101-7634)**

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
2-Pyrrolidinone	616-45-5	N/A	30-50%	EC1:H318

**Note** 2-Pyrrolidinone is 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.

**Part 2: TSP Adapter Mix (Part #: 101-0408)**

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
2-Pyrrolidinone	616-45-5	N/A	5-15%	EC1:H318
DNA oligonucleotides	N/A	N/A	<1%	Not classified

**Note** 2-Pyrrolidinone is considered hazardous. DNA oligonucleotides may cause skin and/or eye irritation. The remaining components are non-hazardous and/or present at amounts below reportable limits. See Section 16 for full text of GHS classifications.

**Part 3: TSP Assay Loading Reagent (Part #: 101-0409)**

<u>Ingredient</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
Triton X-100	9002-93-1	N/A	5-15%	ATO4:H302; E11:H318; CA2:H411

**Note** Triton X-100 is 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.

**Parts 4-8**

<u>Tube Description</u>	<u>CAS #</u>	<u>EINECS/ ELINCS#</u>	<u>Amount</u>	<u>GHS Classification</u>
TSP DNA Polymerase (Part #: 101-0995)	N/A (mixture)	N/A	~100%	Not classified
DNA Dilution RGT (Part #: 100-9167)	N/A (mixture)	N/A	~100%	Not classified
TSP Harvest Reagent (Part #: 101-0743)	N/A (mixture)	N/A	~100%	Not classified
TSP Master Mix (Part #: 101-3050/101-3055)	N/A (Mixture)	N/A	~100%	Not classified
PCR Water (Part #: 100-5941)	N/A	N/A	~100%	Not classified

**Note** The components within Parts 4-8 are non-hazardous and/or present at amounts below reportable limits.

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## SECTION 4 - FIRST AID MEASURES

**Description of first aid measures**

<b>Immediate Medical Attention Needed</b>	Yes
<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash exposed area with soap and water and remove contaminated clothing/shoes. If irritation occurs or persists, notify medical personnel and supervisor.
<b>Inhalation</b>	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.
<b>Ingestion</b>	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.
<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.

## SECTION 5 - FIREFIGHTING MEASURES

<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>	No information identified. 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.

## SECTION 6 - ACCIDENTAL RELEASE MEASURES

<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>	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).
<b>Reference to other sections</b>	See Sections 8 and 13 for more information.

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## SECTION 7 - HANDLING AND STORAGE

**Precautions for safe handling** Avoid breathing mist/vapors/spray. Do not permit eating/drinking/smoking near this material.

**Conditions for safe storage including any incompatibilities** Store at -20 °C in a well-ventilated area; keep container upright and tightly closed.

**Specific end use(s)** No information identified.

## SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

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

**Control Parameters/Occupational Exposure Limit Values** The following values are for those ingredients in the parts of the kit that are considered hazardous.

<u>Compound</u>	<u>Issuer</u>	<u>Type</u>	<u>OEL</u>
2-Pyrrolidinone	--	--	--
Triton X-100	--	--	--

**Exposure/Engineering controls** None required for normal handling of packaged product. 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 aerosol/mist-generating points. Emphasis is to be placed on closed material transfer systems and process containment, with limited open handling.

**Respiratory protection** None required for normal handling of packaged product. Choice of respiratory protection should be appropriate to the task and the level of existing engineering controls. If needed for routine liquid handling tasks, an approved and properly fitted air purifying respirator should provide ancillary protection based on the known or foreseeable limitations of existing engineering controls. Use a powered air-purifying respirator equipped with 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** 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, especially for those parts of the kit that are irritants or corrosive to the eye. 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

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## Information on basic physical and chemical properties

<b>Appearance</b>	Liquids (supplied as individually packaged reagents)
<b>Color</b>	Clear.
<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>	No information identified.
<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>	No information identified.
<b>Solvent solubility</b>	No information identified.
<b>Partition coefficient (<i>n</i>-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>	No information identified.

## Other information

<b>Molecular weight</b>	Not applicable (Mixture)
<b>Molecular formula</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>	Stable when stored as recommended.
<b>Possibility of hazardous reactions</b>	No information identified.
<b>Conditions to avoid</b>	No information identified.

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**Incompatible materials** No information identified.

**Hazardous decomposition products** No information identified.

## SECTION 11 - TOXICOLOGICAL INFORMATION

**Note** No data were identified for the product/mixture. The following information is for the individual hazardous ingredients contained in some parts of the kit.

### Information on toxicological effects

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

#### Acute toxicity

Compound	Type	Route	Species	Dose
2-Pyrrolidinone	LD <sub>50</sub>	Oral	Rat	> 5 g/kg
	LD <sub>50</sub>	IV	Rat	> 7.2 g/kg
	LD <sub>50</sub>	Dermal	Rabbit	> 2 g/kg
Triton X-100	LD <sub>50</sub>	Inhalation	Rat	> 80 ppm/8h
	LD <sub>50</sub>	Oral	Rat	707-1800 mg/kg
	LD <sub>50</sub>	Dermal	Rabbit	>5000 mg/kg

**Irritation/Corrosion** Ocular administration of 2-pyrrolidinone caused irreversible clouding of rabbit cornea. Triton X-100 may cause eye irritation.

**STOT-single exposure** No studies identified.

**STOT-repeated exposure/Repeat-dose toxicity** In a 90-day study, rats were administered 2-pyrrolidinone up to 15,000 ppm in drinking water. Increased kidney weights were observed at the highest dose. Reduced food consumption and body weights were seen at ≥7,200 ppm. The NOAEL was 2,400 ppm. No studies were identified for Triton X-100.

**Reproductive toxicity** Based on repeat dose and developmental studies, no damage to rat reproductive organs was observed. No studies were identified for Triton X-100.

**Developmental toxicity** In developmental studies in rats, embryotoxicity was observed at maternally toxic oral doses of 600 mg/kg/day. Maternal toxicity was observed at ≥190 mg/kg/day. No studies were identified for Triton X-100.

**Genotoxicity** 2-Pyrrolidinone was not genotoxic in a battery of *in vitro* and *in vivo* assays. No studies were identified for Triton X-100.

**Carcinogenicity** No studies identified. No ingredients contained in this product/mixture are listed by NTP, IARC, ACGIH or OSHA as a carcinogen.

**Aspiration hazard** No studies identified.

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

## SECTION 12 - ECOLOGICAL INFORMATION

### Toxicity

Compound	Type	Species	Concentration
2-Pyrrolidinone	EC <sub>50</sub> /48h	Daphnia	13.2 mg/L
	LC <sub>50</sub> /96h	Fathead minnow	>4.6 g/L
	LC <sub>50</sub> /96h	Algae	84 mg/L
Triton X-100	EC <sub>50</sub> /48h	Daphnia	26 mg/L
	LC <sub>50</sub> /96h	Fathead minnow	8.9 mg/L

**Persistence and Degradability** Triton X-100 is not readily biodegradable. No data identified for the remaining components.

**Bioaccumulative potential** No data identified.

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<b>Mobility in soil</b>	No data identified.
<b>Results of PBT and vPvB assessment</b>	Not performed.
<b>Other adverse effects</b>	No data identified.
<b>Note</b>	The environmental characteristics of this product/mixture have not been fully investigated. The above data are for the active ingredient and/or any other ingredient(s) where applicable. Releases to the environment should be avoided.

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## SECTION 13 - DISPOSAL CONSIDERATIONS

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**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.

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## SECTION 14 - TRANSPORT INFORMATION

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<b>Transport</b>	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.
<b>UN number</b>	None assigned.
<b>UN proper shipping name</b>	None assigned.
<b>Transport hazard classes and packing group</b>	None assigned
<b>Environmental hazards</b>	Based on the available data, this product/mixture is not regulated as an environmental hazard or a marine pollutant.
<b>Special precautions for users</b>	Avoid release to the environment.
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Hazardchem Code/HIN</b>	None assigned.

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## SECTION 15 - REGULATORY INFORMATION

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<b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b>	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.
<b>Chemical safety assessment</b>	Not conducted.
<b>WHMIS classification</b>	Part 1: EC1:H318 Part 2: EC1:H318 Part 3: EI2:H319; RS1:H334
<b>TSCA status</b>	2-Pyrrolidinone and Triton X-100 are listed in TSCA.
<b>SARA section 313</b>	None of the ingredients of this product are listed.
<b>California proposition 65</b>	None of the ingredients of this product are listed.
<b>Component Analysis - State</b>	2-Pyrrolidinone is listed as hazardous in MA and PA.



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**Component Analysis – Chemical Inventory**      2-Pyrrolidinone and Triton X-100 are listed in the chemical inventory of the following countries:  
 Australia, Canada, China, EU, New Zealand, the Philippines, and USA

**Additional information**      No other information identified.

## SECTION 16 - OTHER INFORMATION

NFPA Ratings	2-Pyrrolidinone	Health: 3	Fire: 1	Reactivity: 0
	Triton X-100	Health: 1	Fire: 0	Reactivity: 0

**Full text of H phrases and GHS classifications**      ATO4 – Acute Toxicity (Oral) Category 4. H302 – Harmful if swallowed. SS1 – Skin sensitizer Category 1. H317 – May cause an allergic reaction. EC1 – Eye corrosion Category 1. E11 – Eye irritant Category 1. H318 – Causes serious eye damage. E12 – Eye irritant Category 2. H318 – Causes serious eye irritation. RS1 – Respiratory sensitizer Category 1. H334 – May cause allergic or asthmatic symptoms or breathing difficulty if inhaled.

**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; MA - Massachusetts; 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; 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; US - United States; WHMIS - Workplace Hazardous Materials Information System

**History**      Revision A: (SSF) ECN-2892; Refer to PDM for date released; New SDS

**Disclaimer**      The information and recommendations in this safety data sheet are, to the best of Supplier's knowledge, accurate as of the date of issue. However, 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. 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. For Research Use Only. Not for use in diagnostic procedures.