N-PLEX Hybridization Buffer 1

Safety Data Sheet

According To Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules And Regulations

Revision Date: 16Nov2018

SECTION 1: IDENTIFICATION

1.1. Product Identifier

Product Name: N-PLEX Hybridization Buffer 1

Product Code: R60AK

1.2. Intended Use of the Product

Laboratory chemicals

1.3. Name, Address, and Telephone of the Responsible Party

Company

Meso Scale Diagnostics, LLC
1601 Research Blvd
Rockville, MD 20850-3128
T 240-314-2600

1.4. Emergency Telephone Number

Emergency Number : **Within the U.S. and Canada (24 hours, toll-free)**
CHEMTREC: 1-800-424-9300

International (Hours of operation: Monday – Friday, 1230 – 2130 UTC or 0830 – 1730 ET)
MSD direct dial: +1-240-314-2799

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

GHS-US classification

Carc. 2 H351
Repr. 1 H360
STOT RE 2 H373

Full text of H-phrases: see section 16

2.2. Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) :

GHS08

Signal Word (GHS-US) : Danger

Hazard Statements (GHS-US) :
H351 - Suspected of causing cancer.
H360 - May damage fertility or the unborn child.
H373 - May cause damage to organs through prolonged or repeated exposure.

Precautionary Statements (GHS-US) :
P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe vapors, mist, or spray.
P280 - Wear protective gloves, protective clothing, and eye protection.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P314 - Get medical advice/attention if you feel unwell.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards

Exposure may aggravate pre-existing eye, skin, or respiratory conditions.
Target organ effects: Cardiovascular System. Hematopoetic System.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Not applicable

3.2. Mixture

Name	Product Identifier	% (w/w)	GHS-US classification
Formamide	(CAS No) 75-12-7	65 - 85	Carc. 2, H351 Repr. 1, H360 STOT RE 2, H373

Full text of H-phrases: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures

General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice. Show this safety data sheet to attending doctor when possible.

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Immediately flush skin with plenty of water. Wash contaminated clothing before reuse. Obtain medical attention.

Eye Contact: Rinse cautiously with plenty of water. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

Ingestion: Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

General: Not expected to cause acute symptoms under conditions of normal use. Refer to Sections 2.2 and 11 for results of chronic exposure.

Inhalation: Prolonged exposure may cause irritation.

Skin Contact: Prolonged exposure may cause skin irritation.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Ingestion may cause adverse effects.

Chronic Symptoms: Refer to Sections 2.2 and 11 for results of chronic exposure.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media

Suitable Extinguishing Media: Dry chemical powder, alcohol-resistant foam, carbon dioxide (CO_2).

Unsuitable Extinguishing Media: Do not use a heavy water stream. A heavy water stream may spread burning liquid.

5.2. Special Hazards Arising From the Substance or Mixture

Fire Hazard: Product is not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Reacts with strong oxidizers.

5.3. Advice for Firefighters

Precautionary Measures Fire: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use water spray or fog for cooling exposed containers. In case of major fire and large quantities: Evacuate area. Fight fire remotely due to the risk of explosion.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.

Hazardous Combustion Products: Carbon oxides (CO, CO_2). Nitrogen compounds.

Reference to Other Sections

Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapor, mist or spray.

6.1.1. For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

6.1.2. For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill. Absorb and/or contain spill with inert material.

6.4. Reference to Other Sections

See Section 8, Exposure Controls and Personal Protection. See Section 13, Disposal Considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Precautions for Safe Handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. Handle empty containers with care because they may still present a hazard.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store in a well-ventilated place. Keep container tightly closed. Recommended long-term storage at -20°C.

Incompatible Materials: Strong acids, strong bases, strong oxidizers, sulfur trioxide, iodine.

7.3. Specific End Use(s)

Laboratory chemicals

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), AIHA (WEEL), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

Formamide (75-12-7)		
USA ACGIH TLV	TWA (ppm)	10 ppm
USA NIOSH REL	TWA (ppm)	10 ppm
USA NIOSH REL	TWA (mg/m^3)	15 mg/m^3
California	PEL (ppm)	10 ppm
California	PEL (mg/m^3)	18 mg/m^3

8.2. Exposure Controls

Appropriate Engineering Controls: Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

Personal Protective Equipment: Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Face shield.

Materials for Protective Clothing: Chemically resistant materials and fabrics.

Hand Protection: Wear protective gloves. Nitrile is recommended for chemical impermeability.

Eye Protection: Chemical goggles or face shield.

Skin and Body Protection: Wear suitable protective clothing.

Respiratory Protection: If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State	:	Liquid
Appearance	:	Clear liquid
Odor	:	Mild, ammonia-like
Odor Threshold	:	Not available
pH	:	7.3 - 8
Evaporation Rate	:	Not available
Melting Point	:	< 20°C
Freezing Point	:	Not available
Boiling Point	:	> 100°C and <210°C
Flash Point	:	Formamide: > 175°C
Auto-ignition Temperature	:	Formamide: >500°C
Decomposition Temperature	:	Not available
Flammability (solid, gas)	:	Not available
Lower Flammable Limit	:	Formamide: 2.7% by volume
Upper Flammable Limit	:	Formamide: 19% by volume
Vapor Pressure	:	Formamide: 0.08 hPa
Relative Vapor Density at 20 °C	:	Formamide: 1.56 – (Air = 1.0)
Relative Density	:	> 1.0 and <1.134 g/cm^3
Specific Gravity	:	Not available
Solubility	:	Miscible with water.
Partition Coefficient: N-Octanol/Water	:	Not available
Viscosity	:	Not available
Explosion Data – Sensitivity to Mechanical Impact	:	Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge	:	Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: No data available.

10.2. Chemical Stability: Stable under recommended handling and storage conditions (see section 7).

10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

10.4. Conditions to Avoid: Direct sunlight, extremely high heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

10.5. Incompatible Materials: Strong acids, strong bases, strong oxidizers, sulfur trioxide, iodine, pyridine, hydrogen peroxide.

10.6. Hazardous Decomposition Products: Hydrogen cyanide, carbon oxides (CO, CO_2). Nitrogen oxides (NO_x).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product

Acute Toxicity:

LD50 and LC50 Data:

Formamide (75-12-7)	
LD50 Oral – Rat – Male and female – OECD test guideline 401	5,325 mg/kg body weight
LD50 Inhalation – Rat – Male – 4 hr – OECD test guideline 403	21 mg/L
LD50 Dermal – Rabbit	17,000 mg/kg body weight

Skin Corrosion/Irritation: No irritating affect observed

Formamide (75-12-7)	
Skin – Rabbit – 20 hr	No skin irritation

Serious Eye Damage/Irritation: Mild eye irritation possible.

Formamide (75-12-7)	
Eye – Rabbit – OECD Test Guideline 405	Mild eye irritation

Respiratory or Skin Sensitization: Not classified

Germ Cell Mutagenicity: Not classified

Formamide (75-12-7)	
Ames test – S. typhimurium	Negative
Mutagenicity (micronucleus test), Mouse – male and female	Negative

Teratogenicity: Not available

Carcinogenicity: Suspected human carcinogen.

Formamide (75-12-7)	
IARC	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
OSHA	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive Toxicity: Presumed human reproductive toxicant

Formamide (75-12-7)	
Rat – Oral **Reproductive toxicity**	Effects on Fertility: Post-implantation mortality *(e.g.,* dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, *e.g.,* stunted fetus).
Rat – Skin **Developmental toxicity**	Effects on Embryo or Fetus: Fetal death.

Specific Target Organ Toxicity (Single Exposure): Not classified

Specific Target Organ Toxicity (Repeated Exposure): Oral – May cause damage to organs through prolonged or repeated exposure. – Blood.

Aspiration Hazard: Not classified

Symptoms/Injuries After Inhalation: Prolonged exposure may cause irritation.

Symptoms/Injuries After Skin Contact: Prolonged exposure may cause skin irritation.

Symptoms/Injuries After Eye Contact: Prolonged exposure may cause eye irritation.

Symptoms/Injuries After Ingestion: Ingestion may cause adverse effects.

11.2. Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Formamide (75-12-7)	See data provided above.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecology - General: Not classified.

Formamide (75-12-7)	
LC50 Fish 1	6,569 mg/L (Exposure time: 96 h - Species: Leuciscus idus (Golden orfe) [static test])
EC50 Daphnia and aquatic invertebrates	>500 mg/L (Exposure time: 48 h – Species: Daphnia magna (Water flea) [static test])
EC50 Algae	>500 mg/L (Exposure time: 72 h – Species: Desmodesmus subspicatus [static test])
EC50 Bacteria (Sludge treatment	>1000 mg/L (Exposure time: 30 min – Effect: Respiration inhibition, OECD Test 209)

12.2. Persistence and Degradability

Formamide (75-12-7)	
Persistence and Degradability	Aerobic – Exposure time 28 d, Result: 99%, Readily biodegradable, OECD Test 301A

12.3. Bioaccumulative Potential Not available

12.4. Mobility in Soil Not available

12.5. Other Adverse Effects Not available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste Disposal Recommendations: Dispose of contents/container in accordance with local, regional, national, and international regulations.

Ecology – Waste Materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport

14.2. In Accordance with IMDG Not regulated for transport

14.3. In Accordance with IATA Not regulated for transport

14.4. In Accordance with TDG Not regulated for transport

SECTION 15: REGULATORY INFORMATION

15.1. US Federal Regulations

Formamide (75-12-7)	
SARA Section 302	Not subject to reporting requirements.
SARA Section 313	Not subject to reporting requirements.
SARA Section 311/312 Hazard Classes	Chronic health hazard.

N-PLEX Hybridization Buffer 1	
TSCA Inventory	All components in this product are listed on the TSCA inventory.

15.2. US State Regulations

Formamide (75-12-7)
U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List
US – California, Prop. 65 – Not known by the State of California to cause cancer, birth defects, or other reproductive harm.

15.3. Canadian Regulations

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) (part of WHMIS 2015) and the SDS contains all of the information required by HPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 16Nov2018

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

GHS Full Text Phrases:

Carc. 2	Carcinogen Category 2
Repr. 1	Reproductive toxicant Category 1B
STOT RE 2	Specific target organ toxicant (repeated exposure) Category 2
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.

Party Responsible for the Preparation of This Document

Meso Scale Diagnostics T 240-314-2600

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

NA GHS SDS