Safety Data Sheet

SECTION 1: Identification of the substance/mixture and of the company/undertaking

Identification of the substance or mixture

Product code 4311320
Product name Hi-Di Formamide

Company/undertaking identification

Life Technologies Corporation
5781 Van Allen Way
PO Box 6482
Carlsbad, CA 92008
+1 760 603 7200

Life Technologies
5250 Mainway Drive
Burlington, ONT
CANADA L7L 6A4
800/263-6236

24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC

Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887
Outside the USA + Canada: 1-703-741-5970

Country Specific Emergency Number (if available):

For research use only. Not for use in diagnostic procedures

SECTION 2: Hazards identification

GHS Classification

Signal Word
DANGER

Hazard pictograms

Health hazards

Specific target organ toxicity (STOT) – repeated exposure	Category 2

Carcinogenicity	Category 2
Reproductive Toxicity	Category 1B

Physical hazards
Not Hazardous

Environmental hazards
Not Hazardous

Hazard Statements
H360 - May damage fertility or the unborn child if swallowed
H351 - Suspected of causing cancer if swallowed
H373 - May cause damage to organs through prolonged or repeated exposure

Precautionary Statements

Prevention
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P281 - Use personal protective equipment as required

Response
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell

Storage
Not Applicable

Disposal
P501 - Dispose of contents/ container to an approved waste disposal plant

Other hazards
Not Applicable

HMIS

Health	2 * Chronic Hazard
Flammability	1
Reactivity	0

SECTION 3: Composition/information on ingredients

Chemical Name	CAS No.	Common name	EINECS-No	Weight-%
Formamide	75-12-7	Not applicable	200-842-0	95-100

We recommend handling all chemicals with caution.

SECTION 4: First aid measures

Description of first aid measures

Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Immediate medical attention is required.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.
Ingestion	Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. If swallowed, rinse mouth with water (only if the person is conscious). Risk of serious damage to the lungs (by aspiration). Get medical attention if symptoms occur.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. If symptoms persist, call a physician.
Notes to Physician	Treat symptomatically.

Most important symptoms and effects, both acute and delayed
H360 - May damage fertility or the unborn child if swallowed H351 - Suspected of causing cancer if swallowed H373 - May cause damage to organs through prolonged or repeated exposure

Indication of any immediate medical attention and special treatment needed
IF exposed or concerned: Get medical advice/attention. Get medical advice/attention if you feel unwell.

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media	Foam. Dry powder. Dry chemical. Carbon dioxide (CO_2). Water spray.
Unsuitable extinguishing media	No information available.

Special hazards arising from the substance or mixture
No data

Advice for firefighters
Wear self-contained breathing apparatus and protective suit.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures
Avoid exposure to vapor
Avoid breathing vapors or mists
Ensure adequate ventilation
Avoid contact with skin, eyes or clothing
Use personal protection equipment
See section 8 for more information

Environmental precautions
Should not be released into the environment. Prevent product from entering drains.

Methods and material for containment and cleaning up
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

Reference to other sections
See section 8 for more information.

SECTION 7: Handling and storage

Precautions for safe handling
Always wear recommended Personal Protective Equipment. Wash hands before breaks and immediately after handling the product. Do not get in eyes, on skin, or on clothing. Avoid breathing vapors or mists. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. See section 8 for more information.

Conditions for safe storage, including any incompatibilities
Keep in properly labeled containers. Keep in a dry, cool and well-ventilated place. Store in accordance with local regulations. Keep away from combustible material.

Specific end use(s)
For research use only.

SECTION 8: Exposure controls/personal protection

Control parameters

Chemical Name	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
Formamide	37 mg/m³	None	1 ppm	None

Chemical Name	Brazil - OEL - TWAs (LTs)	Brazil - OEL - Ceilings	Brazil - OEL - Skin Designations
Formamide	1 ppm	None	None

Engineering Measures Ensure adequate ventilation, especially in confined areas.

Exposure controls

Personal Protective Equipment

Respiratory protection In case of insufficient ventilation wear respirators and components tested and

approved under appropriate government standards.

Hand protection	Glove material:. Nitrile rubber. with thickness (mm). :5. Break through time. (hours). :>1. Recommended glove type has not been tested for use with product. Information is based on professional Knowledge.
Eye protection	Tight sealing safety goggles.
Skin and Body Protection	Wear laboratory coat for body protection.
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls
Should not be released into the environment. Prevent product from entering drains.

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

Physical state	liquid	
Color	No data	
Odor	No data	
Molecular Weight	No data	
Melting point / melting range	**°C** 0-2.5	**°F** 32-36.5
Boiling point / boiling range	**°C** 100-210	**°F** 212-410
Flammability (solid, gas)	No data	
Lower explosion limit	No data	
Upper explosion limit	No data	
Flash point	**°C** >120	**°F** >248
Autoignition Temperature	**°C** >500	**°F** >932
Decomposition temperature	**°C** No data	**°F** No data
pH	9	
Evaporation rate	No data	
Viscosity	No data	
Solubility	Soluble in water	
Partition coefficient: n-octanol/water	No data	
Vapor Pressure	No data	
Specific gravity	No data	
Relative density	No data	
Vapor density	No data	
Explosive properties	No data	
Oxidizing properties	No data	
Particle characteristics	No data	

Other information

Information with regard to physical hazard classes
No information available

Other safety characteristics
No information available

SECTION 10: Stability and reactivity

Reactivity None known.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions Hazardous reaction has not been reported.

Conditions to avoid High temperature. Thermal decomposition of the finish can take place above (>140 °C) >284 °C.

Incompatible materials Oxidizing agent. Acids. Bases. Sulphur trioxide. Iodine.

Hazardous decomposition products Carbon monoxide. Hydrogen cyanide (hydrocyanic acid). Nitrogen oxides (NOx).

SECTION 11: Toxicological information

Information on toxicological effects

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Formamide	3200 mg/kg	13500 mg/kg	3900 ppm/6H

Principal Routes of Exposure

Acute toxicity Data are conclusive but insufficient for classification.

Skin corrosion/irritation Data are conclusive but insufficient for classification

Serious eye damage/irritation Data are conclusive but insufficient for classification

Respiratory or skin sensitization Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT) – single exposure Data are conclusive but insufficient for classification

Specific target organ toxicity (STOT) – repeated exposure Target organ(s): : Cardiovascular System Hematopoietic System

Carcinogenicity Contains a known or suspected carcinogen

Germ cell mutagenicity Data are conclusive but insufficient for classification

Reproductive toxicity May cause adverse reproductive effects - such as birth defect, miscarriages, or infertility

Aspiration hazard Data are conclusive but insufficient for classification

SECTION 12: Ecological information

Toxicity
The environmental impact of this product has not been fully investigated.

Chemical Name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates	Toxicity to fish	Microtox Data	log Pow
Formamide	Desmodesmus subspicatus EC50>500 mg/L (72 h) Desmodesmus subspicatus EC50>500 mg/L (96 h)	Daphnia magna EC50>500 mg/L (48 h)	No data available	No data available	logPow-0.82

Mobility in soil No information available.

Persistence and degradability Readily biodegradable.

Bioaccumulative potential Material does not bioaccumulate.

Results of PBT and vPvB assessment
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other adverse effects No information available.

SECTION 13: Disposal considerations

Waste treatment methods
The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations.

SECTION 14: Transport information

IATA / ADR / DOT-US / IMDG
Not regulated in the meaning of transport regulations

UN number or ID number	Not Applicable
UN proper shipping name	Not Applicable
Transport hazard class(es)	Not Applicable
Packing group	Not Applicable

Environmental hazards
Not Applicable

Special precautions for user
Not Applicable

Maritime transport in bulk according to IMO instruments
Not Applicable.

SECTION 15: Regulatory information

Component	US TSCA
Formamide 75-12-7 (95-100)	Listed

US Federal Regulations

SARA 313
This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)
This product does not contain HAPs

US State Regulations

Chemical Name	Massachusetts - RTK (Right-to-Know)	New Jersey - RTK (Right-to-Know)	Pennsylvania - RTK (Right-to-Know)
Formamide	Listed	Listed	Listed

California Proposition 65
This product does not contain any Proposition 65 chemicals.

WHMIS Hazard Class
D2A - Very toxic materials

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

National Regulations - Brazil

Chemical Name	CAS No.	Brazil - National Agency for Sanitary Surveillance (ANVISA)	Brazil - National List of Carcinogen Agents to Humans (LINACH)
Formamide	75-12-7	Not Listed	Not Listed

SECTION 16: Other information

Reason for revision SDS sections updated.
Revision number 17
Revision date 10-May-2021

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References

• ECHA: http://echa.europa.eu/
• TOXNET: http://toxnet.nlm.nih.gov/
• eChemPortal: http://www.echemportal.org/
• LOLI database: https://www.chemadvisor.com/loli-database

Abbreviations and acronyms

TWA - Time-Weighted Average
OELs - Occupational Exposure Limits
STEL - Short Term Exposure Limit
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
KECL - Korean Existing and Evaluated Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
NZIoC - New Zealand Inventory of Chemicals
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
CEPA - Canadian Environmental Protection Act
EPA - Environmental Protection Agency
OSHA - Occupational Safety and Health Administration of the US Department of Labor
IATA - International Air Transport Association
DOT - Department of Transportation
IMDG - International Maritime Dangerous Goods
ACGIH - American Conference of Governmental Industrial Hygienists
NIOSH - National Institute for Occupational Safety and Health
AIHA - American Industrial Hygiene Association
HMIS - Department of Defense Hazardous Materials Information System
NTP - National Toxicology Program
IARC - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR IMPLIED,INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

End of Safety Data Sheet