

Section 1 - Chemical Product and Company Identification

Product Name: **Antibody Array Assay Kit**
Product Number: KAS02, KAS20
Company: Full Moon BioSystems, Inc., 754 N. Pastoria Ave, Sunnyvale, CA 94085, USA
Technical Phone: 408.737.1702
Fax: 408.732.7230

Section 2 - Composition, Information on Ingredients

This product is composed of the following components:

Biotin	Detection Buffer	Labeling Buffer
Blocking Reagent	DMF	Stop Reagent
Coupling Reagent	Extraction Buffer	Wash Buffer

Except Biotin and DMF, all reagents/buffers in this kit are a mixture that contains less than 1% hazardous chemicals. According to 29CFR 1910.1200(d), ingredients at less than 1% concentration are not considered to be hazardous. Other than the chemicals listed below, there are no additional ingredients that are classified as hazardous to health and environment. For Biotin and DMF, please refer to individual material safety data sheet attached below.

Hazardous Ingredient	CAS#	Percent	Kit Component
SDS (Sodium Dodecyl Sulfate)	151-21-3	<1%	Detection Buffer Extraction Buffer Wash Buffer
Triton X100 (polyethylene glycol octylphenyl ether)	9002-93-1	<1%	Extraction Buffer
Tween 20 (polysorbate 20)	9005-64-5	<1%	Detection Buffer Wash Buffer

Section 3 - Hazards Identification

This product is not for use in humans. It is intended for research purposes only.

EMERGENCY OVERVIEW

SDS (Sodium Dodecyl Sulfate) (CAS: 151-21-3): May cause eye and skin irritation.

Potential Health Effects

Eye: Contact may cause transient eye irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Ingestion: May be harmful if ingested. Causes digestive tract disturbances.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Triton X100 (CAS#: 9022-93-1): Harmful by ingestion. May cause irritation.

Potential Health Effects

Eye: Contact may cause transient eye irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Ingestion: May be harmful if ingested. Causes digestive tract disturbances.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Tween 20 (polysorbate 20) (CAS#: 9005-64-5): May cause eye and skin irritation. Contains material that can cause target organ damage.

Potential Health Effects

Eye: Contact may cause transient eye irritation.

Skin: May be harmful if absorbed through skin. Causes skin irritation.

Ingestion: May be harmful if ingested. Causes digestive tract disturbances.

Inhalation: May be harmful if inhaled. Causes respiratory tract irritation.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, wash out mouth with water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Section 5 - Fire Fighting Measures

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits: Not available.

Extinguishing Media: Use water spray, dry chemical, or carbon dioxide.

Firefight: Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

SDS (CAS: 151-21-3):

Flammability: May be combustible at high temperature.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits: Not available.

Extinguishing Media: Use water spray, dry chemical, or carbon dioxide.

Firefight: Wear protective clothing and self-contained breathing apparatus to prevent contact with skin and eyes.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container away from incompatible substances. Keep refrigerated. (Store below 4°C/39°F.)

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Local exhaust may be necessary to control concentrations to acceptable levels.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

SDS (Sodium Dodecyl Sulfate) (CAS: 151-21-3):

Appearance: solid

Odor: faint odor

pH: Not available

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble in water

Triton X100 (CAS#: 9022-93-1):

Appearance: clear liquid

Odor: None reported.

pH: 7

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: Not available.
Decomposition Temperature: Not available.
Solubility: Soluble in phosphate buffered saline

Tween 20 (CAS#: 9005-64-5):

Appearance: clear liquid

Odor: None reported.

pH: 7

Vapor Pressure: Negligible.

Vapor Density: Not available.

Evaporation Rate: Negligible.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: Not available.

Decomposition Temperature: Not available.

Solubility: Soluble in water

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: High temperatures, incompatible materials.

Incompatibilities with Other Materials: Strong acids and bases, strong oxidizers.

Hazardous Decomposition Products: carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

SDS (CAS: 151-21-3):

Acute Toxicity: Causes skin irritation

Chronic Effects on Humans: Mutagenic effects: Mutagenic for bacteria and/or yeast. May cause damage to skin.

Exposure Remarks:

LD50 rat oral: 1288 mg/kg

LC50 rat dust: >3900 mg/kg

LDL: rabbit skin: 10000 mg/kg

Triton X100 (CAS #: 9002-93-1):

Acute Toxicity: Not available

Chronic Exposure: Not available

Exposure Remarks:

LD50 mouse intravenous: 1200 mg/kg

LD50 rat oral: 1800 -3800 mg/kg

Tween 20 (CAS#: 9005-64-5):

Acute Toxicity: Causes mild skin irritation

Chronic Exposure: Not available

Exposure Remarks:

LD50 mouse intravenous: 1200 mg/kg

LD50 rat oral: 1800 -3800 mg/kg

Section 12 - Ecological Information
Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: None.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3.

Section 14 - Transport Information

	US DOT	IATA
SDS (CAS: 151-21-3)	Not regulated as a hazardous material	Not regulated as a hazardous material
Triton X100 (CAS #: 9002-93-1)	Not regulated as a hazardous material	Not regulated as a hazardous material
Tween 20 (CAS#: 9005-64-5)	Not regulated as a hazardous material	Not regulated as a hazardous material

Section 15 - Regulatory Information
SDS (CAS: 151-21-3):

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: this product is on the European Inventory of Existing Commercial Chemical Substances.

WHIMIS (Canada): Class D-2B: Material causing other toxic effects.

DSCL (EEC): R36/38 – Irritating eyes and skin. S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. S37/39 – Wear suitable gloves and eye/face protection.

Triton X100 (CAS #: 9002-93-1):

OSHA: Harmful by ingestion. May cause irritation

DSL: Listed

SARA 302, 313: Not listed

SARA 311, 312: Acute health hazard

Massachusetts Right To Know: Not listed

Pennsylvania Right To Know: Not listed

New Jersey Right To Know: Not listed

California Prop 65: Not listed

Tween 20 (CAS#: 9005-64-5):

HCS Classification: Target organ

SARA 302, 313: Not listed

SARA 311, 312: Not listed

Massachusetts Right To Know: Not listed

Pennsylvania Right To Know: Not listed

New Jersey Right To Know: Not listed

California Prop 65: Not listed

Section 16 – Other Information

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Full Moon BioSystems, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

Section 1 - Chemical Product and Company Identification

Product Name: **Biotin - Antibody Array Assay Kit**
Product Number: KAS02, KAS20
Company: Full Moon BioSystems, Inc., 754 N. Pastoria Ave, Sunnyvale, CA 94085, USA
Technical Phone: 408.737.1702
Fax: 408.732.7230

Section 2 - Composition, Information on Ingredients

This chemical is one of the components of the Antibody Array Assay Kit. For other components in the kit, please refer to individual material safety data sheet.

CAS#	Chemical Name	Percent	EINECS/ELINCS
58-85-5	Biotin, 1mg	>98	200-399-3

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: white solid.

Caution! May cause irritation. The toxicological properties of this material have not been fully investigated.

Target Organs: None.

Potential Health Effects

Eye: Contact may cause transient eye irritation.

Skin: May cause skin irritation. Low hazard for usual industrial handling.

Ingestion: May cause digestive tract disturbances. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: Prolonged or repeated exposure may cause adverse reproductive effects. May cause fetal effects.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid if irritation or symptoms occur.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media: Use water spray, dry chemical, or carbon dioxide.

Flash Point: Not available.

Autoignition Temperature: Not available.

Explosion Limits, Lower: N/A

Upper: N/A

NFPA Rating: Not published.

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep refrigerated. (Store below 4°C/39°F.)

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Local exhaust may be necessary to control concentrations to acceptable levels.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Biotin	none listed	none listed	none listed

OSHA Vacated PELs: Biotin: No OSHA Vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: white
Odor: None reported.
pH: Not available.
Vapor Pressure: Negligible.
Vapor Density: Not available.
Evaporation Rate: Negligible.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 231.00 - 233.00 deg C
Decomposition Temperature: > 233 deg C
Solubility: Moderately Soluble.
Specific Gravity/Density: Not available.
Molecular Formula: C₁₀H₁₆N₂O₃S
Molecular Weight: 244.31

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: High temperatures, incompatible materials.
Incompatibilities with Other Materials: Strong acids and bases, strong oxidizers.
Hazardous Decomposition Products: Nitrogen oxides, carbon monoxide, oxides of sulfur, carbon dioxide.
Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:
CAS# 58-85-5: XJ9088200
LD50/LC50:
Not available.

Carcinogenicity:
CAS# 58-85-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.
Teratogenicity: Embryo or Fetus: Extra-embryonic structures & Stunted fetus, subcutaneous-rat TDLo=200mg/kg.
Reproductive Effects: Fertility: Litter size, subcutaneous(SCU)-rat TDLo=100mg/kg; Post-implantation mortality, SCU-rat TDLo=200mg/kg. Maternal Effects: Uterus/cervix/vagina, SCU-rat TDLo=200mg/kg.
Mutagenicity: No information available.
Neurotoxicity: No information available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.

Environmental: No information reported.

Physical: No information available.

Other: None.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.

Section 15 - Regulatory Information

US FEDERAL**TSCA**

CAS# 58-85-5 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

Section 313 No chemicals are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 58-85-5 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

Not available.

Risk Phrases:**Safety Phrases:**

S 24/25 Avoid contact with skin and eyes.

WGK (Water Danger/Protection)

CAS# 58-85-5: 1

Canada - DSL/NDSL

CAS# 58-85-5 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of Not controlled..

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List**Section 16 – Other Information**

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Full Moon BioSystems, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.

Section 1 - Chemical Product and Company Identification

Product Name: **N,N-Dimethylformamide – Antibody Array Assay Kit**
Product Number: KAS02, KAS20
Company: Full Moon BioSystems, Inc., 754 N. Pastoria Ave, Sunnyvale, CA 94085, USA
Technical Phone: 408.737.1702
Fax: 408.732.7230

Section 2 - Composition, Information on Ingredients

This chemical is one of the components of the Antibody Array Assay Kit. For other components in the kit, please refer to individual material safety data sheet.

CAS#	Chemical Name	Percent	EINECS/ELINCS
68-12-2	N,N-Dimethylformamide, 200uL	99+	200-679-5

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: APHA: 20 max liquid. Flash Point: 58 deg C.

Warning! Flammable liquid and vapor. May cause harm to the unborn child. Harmful if absorbed through skin or if inhaled. Lachrymator (substance which increases the flow of tears). Causes eye and skin irritation. May cause respiratory tract irritation. May cause liver and kidney damage. May cause central nervous system effects.

Target Organs: Blood, kidneys, central nervous system, liver, spleen, respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects

Eye: Causes eye irritation. Lachrymator (substance which increases the flow of tears).

Skin: Causes skin irritation. Harmful if absorbed through the skin. Substance is rapidly absorbed through the skin.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause liver and kidney damage. May be harmful if swallowed.

Inhalation: Harmful if inhaled. May cause respiratory tract irritation. May cause central nervous system effects.

Chronic: Prolonged or repeated skin contact may cause dermatitis. Repeated exposure may cause damage to the spleen. Adverse reproductive effects have been reported in animals. Laboratory experiments have resulted in mutagenic effects. Chronic exposure may cause blood effects. Possible risk of harm to the unborn child.

Section 4 - First Aid Measures

Eyes: Get medical aid immediately. Immediately flush eyes with plenty of water for at least 15 minutes.

Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. Get medical aid immediately. Call a poison control center.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Will burn if involved in a fire. Containers may explode in the heat of a fire. Flammable liquid and vapor.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use foam, dry chemical, or carbon dioxide.

Flash Point: 58 deg C (136.40 deg F)

Autoignition Temperature: 445 deg C (833.00 deg F)

Explosion Limits, Lower: 2.2 vol %

Upper: 16 vol %

NFPA Rating: (estimated) Health: 2; Flammability: 2; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Remove all sources of ignition. Use a spark-proof tool. Do not let this chemical enter the environment.

Section 7 - Handling and Storage

Handling: Use spark-proof tools and explosion proof equipment. Do not get in eyes, on skin, or on clothing. Take precautionary measures against static discharges. Keep away from heat, sparks and flame. Do not ingest or inhale. Use only in a chemical fume hood.

Storage: Keep away from sources of ignition. Store in a cool, dry place. Store in a tightly closed container. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
N,N-Dimethylformamide	10 ppm TWA; Skin - potential significant contribution to overall exposure by the cutaneous route	10 ppm TWA; 30 mg/m ³ TWA 500 ppm IDLH	10 ppm TWA; 30 mg/m ³ TWA

OSHA Vacated PELs: N,N-Dimethylformamide: 10 ppm TWA; 30 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless - APHA: 20 max

Odor: amine-like

pH: 6 - 8 @ 20% aq.sol.

Vapor Pressure: 4.9 mbar @ 20 C

Vapor Density: 2.5 (air=1)

Evaporation Rate: 0.17 (butylacetate=1)

Viscosity: 0.8 mPas @ 20 C

Boiling Point: 153 deg C

Freezing/Melting Point: -61 deg C

Decomposition Temperature: Not available.

Solubility: Soluble.

Specific Gravity/Density: 0.94

Molecular Formula: C₃H₇NO

Molecular Weight: 73.09

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources, excess heat.

Incompatibilities with Other Materials: Reducing agents, acids, alkali metals, halogenated agents, nitrates, metal oxides, chloroformates.

Hazardous Decomposition Products: Carbon monoxide, oxides of nitrogen, oxides of nitrogen, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 68-12-2: LQ2100000

LD50/LC50:

CAS# 68-12-2:

Inhalation, mouse: LC50 = 9400 mg/m³/2H;

Inhalation, rat: LC50 = 3421 ppm/1H;

Inhalation, rat: LC50 = 3421 ppm/3H;

Inhalation, rat: LC50 = 1948 ppm/4H;
 Oral, mouse: LD50 = 2900 mg/kg;
 Oral, rabbit: LD50 = 5 gm/kg;
 Oral, rat: LD50 = 2800 mg/kg;
 Skin, rabbit: LD50 = 4720 mg/kg;
 Skin, rat: LD50 = >3.2 gm/kg;

Carcinogenicity:

CAS# 68-12-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information found. IARC Group 3: Limited or insufficient evidence for carcinogenicity in both animals and humans.

Teratogenicity: Teratogenic effects have occurred in experimental animals.

Reproductive Effects: Adverse reproductive effects have occurred in experimental animals.

Mutagenicity: Mutagenic effects have occurred in humans.

Neurotoxicity: No information found

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	N,N-DIMETHYLFORMAMIDE	N,N-DIMETHYLFORMAMIDE
Hazard Class:	3	3
UN Number:	UN2265	UN2265
Packing Group:	III	III

Section 15 - Regulatory Information

US FEDERAL
TSCA

CAS# 68-12-2 is listed on the TSCA inventory.

Health & Safety Reporting List

CAS# 68-12-2: Effective 4/13/89, Sunset 12/19/95

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

CAS# 68-12-2: 100 lb final RQ; 45.4 kg final RQ

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 68-12-2: immediate, fire.

Section 313

This material contains N,N-Dimethylformamide (CAS# 68-12-2, 99+%), which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR

Clean Air Act:

CAS# 68-12-2 is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 68-12-2 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations**European Labeling in Accordance with EC Directives****Hazard Symbols:**

T

Risk Phrases:

R 20/21 Harmful by inhalation and in contact with skin.

R 36 Irritating to eyes.

R 61 May cause harm to the unborn child.

Safety Phrases:

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

S 53 Avoid exposure - obtain special instructions before use.

WGK (Water Danger/Protection)

CAS# 68-12-2: 1

Canada - DSL/NDL

CAS# 68-12-2 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B3, D2A, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 68-12-2 is listed on the Canadian Ingredient Disclosure List.

Section 16 – Other Information

This product is not intended for use in humans. To the best of our knowledge, this document is accurate. It is intended to serve as a guide for safe use of this product in a laboratory setting by experienced personnel. The burden of safe use of this material rests entirely with the user. The above information is believed to be accurate but is not necessarily all-inclusive and shall be used only as a guide. Full Moon BioSystems, Inc., shall not be held liable for any damage resulting from the handling of or from contact with the above product.