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MATERIAL SAFETY DATA SHEET

EMERGENCY # FOR NATIONAL RESPONSE CENTER (800) 424-8802

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SECTION 1. CHEMICAL IDENTIFICATION Product Name: **APO ssDNA.**

An antibody assay to detect DNA damage (single stranded DNA) in Apoptotic Cells

Kit Part No: 5034

Components:

1. Mouse anti single stranded DNA	Part#: 1003
2. Anti mouse IgM FITC labeled	Part#: 2005
3. Fixative	Part#: 3033
4. 10 X Wash Buffer	Part#: 3037

SECTION 2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Toxic.

Toxic by inhalation, in contact with skin and if swallowed. Causes burns. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact. May cause heritable genetic damage. Readily absorbed through skin. Lachrymator. Contains formaldehyde. Potential cancer hazard.

Target organ(s): Eyes, Kidney, Liver, Heart, Central nervous system.

Combustible.

HMIS RATING

HEALTH: 3*

FLAMMABILITY: 3

REACTIVITY: 2

NFPA RATING

HEALTH: 3

FLAMMABILITY: 3

REACTIVITY: 2

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

SECTION 3 First Aid Measures.

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately. Do not induce vomiting.

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

FLASH POINT

133 °F 56 °C Method: closed cup

EXPLOSION LIMITS

Lower: 7 % Upper: 70 %

AUTOIGNITION TEMP

420 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Combustible liquid. Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Government approved respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

Other: Faceshield (8-inch minimum).

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Discard contaminated shoes. Wash thoroughly after handling.

EXPOSURE LIMITS

Country Source Type Value

ACGIH TLV 0.3 ppm

Section 9 - Physical/Chemical Properties

Appearance Physical State: Clear liquid

Color: Colorless

Odor: Pungent

Property Value At Temperature or Pressure

Molecular Weight 30.03 AMU

pH N/A

BP/BP Range 100 °C

MP/MP Range N/A

Freezing Point N/A

Vapor Pressure 40 mmHg 39 °C

Vapor Density 1 g/l

Saturated Vapor Conc. N/A

SG/Density 1.09 g/cm³

Bulk Density N/A

Odor Threshold N/A

Volatile% N/A

VOC Content N/A

Water Content N/A

Solvent Content N/A

Evaporation Rate 1

Viscosity N/A

Surface Tension N/A

Partition Coefficient Log Kow: 0.35

Decomposition Temp. N/A

Flash Point 133 °F 56 °C Method: closed cup

Explosion Limits Lower: 7 %

Upper: 70 %

Flammability N/A

Autoignition Temp 420 °C

Refractive Index 1.3765

Optical Rotation N/A

Miscellaneous Data N/A

Solubility Solubility in Water: Complete

Section 10 - Stability and Reactivity

STABILITY

Stable: Stable.

Materials to Avoid: Strong oxidizing agents Incompatible with: aniline, phenol, isocyanates, anhydrides, Strong acids, Strong bases, Amines, Peroxides, Acid chlorides, Acid anhydrides, Alkali metals, Reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes burns.

Skin Absorption: Toxic if absorbed through skin. Readily absorbed through skin.

Eye Contact: Causes burns.

Inhalation: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract. Toxic if inhaled.

Ingestion: Toxic if swallowed.

SENSITIZATION

Skin: May cause allergic skin reaction.

TARGET ORGAN(S) OR SYSTEM(S)

Eyes. Kidneys. Liver. Heart.

SIGNS AND SYMPTOMS OF EXPOSURE

Coughing, chest pains, difficulty in breathing. Gastrointestinal disturbances. May cause convulsions. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Exposure can cause: Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH,

NTP, or EPA classification.

OSHA CARCINOGEN LIST

Rating: Potential cancer hazard.

CHRONIC EXPOSURE - MUTAGEN

Result: May alter genetic material.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations. This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber.

Section 14 - Transport Information

DOT

Proper Shipping Name: Formaldehyde, solutions,
flammable

UN#: 1198

Class: 3

Packing Group: Packing Group III

Hazard Label: Flammable liquid

Hazard Label: Corrosive

PIH: Not PIH

IATA

Proper Shipping Name: Formaldehyde solution, flammable

IATA UN Number: 1198

Hazard Class: 3

Packing Group: III

Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION

Symbol of Danger: T

Indication of Danger: Toxic.

R: 23/24/25-34-39/23/24/25-40-43

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Causes burns. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact.

S: 26-36/37/39-45-51

Safety Statements: In case of contact with eyes, rinse

immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Use only in well ventilated areas.

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.

Risk Statements: Toxic by inhalation, in contact with skin and if swallowed. Causes burns. Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed. Limited evidence of a carcinogenic effect. May cause sensitization by skin contact. May cause heritable genetic damage. Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection.

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

Use only in well US Statements: Readily absorbed through skin. Lachrymator.

Contains formaldehyde. Potential cancer hazard. Target organ(s):

Kidneys. Eyes. Combustible.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: Yes

NOTES: This product is or contains a component that is subject to SARA313 reporting requirements.

UNITED STATES - STATE REGULATORY INFORMATION

CALIFORNIA PROP - 65

California Prop - 65: This product is or contains chemical(s) known to the state of California to cause cancer.

CANADA REGULATORY INFORMATION

WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.

DSL: No

NDSL: No

Section 16 - Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

WARRANTY

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT IS NOT NECESSARILY ALL-INCLUSIVE AND SHOULD BE USED ONLY AS A GUIDE. CELL TECHNOLOGY INC SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. INDIVIDUALS RECEIVING THE INFORMATION MUST EXERCISE THEIR INDEPENDENT JUDGMENT IN DETERMINING ITS APPROPRIATENESS FOR A PARTICULAR PURPOSE

Section 1. Identification

1X DNA Denaturing Buffer	Part# 3036
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CAS No.: 75-12-7

Molecular Weight: 45.04

Chemical Formula: CH₃NO

Name: Formamide.

Synonyms Amid kyseliny mravenci (Czech) * Carbamaldehyde *

Formamide (ACGIH) * Formimidic acid * Methanamide

* Methanoic acid, amide

Section 2 Hazard Identification

EMERGENCY OVERVIEW

Toxic.

May cause harm to the unborn child. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Target organ(s): Blood. Central nervous system. Readily absorbed through skin.

HMIS RATING

HEALTH: 2*

FLAMMABILITY: 1

REACTIVITY: 1

NFPA RATING

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 1

*additional chronic hazards present.

Section 3 First Aid Measures

ORAL EXPOSURE

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately..

INHALATION EXPOSURE

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes.

Call a physician.

EYE EXPOSURE

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 4 Fire Fighting Measures

FLASH POINT

302 °F 150 °C Method: closed cup

EXPLOSION LIMITS

Lower: 2.7 % Upper: 19 %

AUTOIGNITION TEMP

500 °C

FLAMMABILITY

N/A

EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING

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

Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 5 Accidental Release Measures

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete .

Section 6 Handling and Storage

HANDLING

User Exposure: Do not breathe vapor. Do not breathe mist. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Suitable: Keep tightly closed.

Section 7 Exposure Controls & Personal Protection

ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN

(EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose

combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.

Hand: Compatible chemical-resistant gloves.

Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling .

Section 8 Stability and Reactivity Information

STABILITY

Stable: Stable.

Conditions to Avoid: Moisture.

Materials to Avoid: Acids, Strong oxidizing agents, Bases.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Nitrogen oxides.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE

Skin Contact: Causes skin irritation.

Skin Absorption: Readily absorbed through skin. May be harmful if absorbed through the skin.

Eye Contact: Causes severe eye irritation.

Inhalation: May be harmful if inhaled. Vapor or mist is irritating to the mucous membranes and upper respiratory tract.

Ingestion: May be harmful if swallowed.

TARGET ORGAN(S) OR SYSTEM(S)

Blood. Central nervous system. Liver. Kidneys.

SIGNS AND SYMPTOMS OF EXPOSURE

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Gastrointestinal disturbances. Exposure can cause:

CONDITIONS AGGRAVATED BY EXPOSURE

Material can cause severe burns and blistering which may not be immediately painful or visible. The full extent of tissue damage may not exhibit itself for 12-24 hours after exposure.

CHRONIC EXPOSURE - TERATOGEN

Result: May cause congenital malformation in the fetus.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: None

Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA

Non-Hazardous for Air Transport: Non-hazardous for air transport .

Section 15 - Regulatory Information

EU DIRECTIVES CLASSIFICATION

Symbol of Danger: T

Indication of Danger: Toxic.

R: 61

Risk Statements: May cause harm to the unborn child.

S: 53-45

Safety Statements: Restricted to professional users. Attention -

Avoid exposure - obtain special instructions before use. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

US CLASSIFICATION AND LABEL TEXT

Indication of Danger: Toxic.

Risk Statements: May cause harm to the unborn child. Irritating to respiratory system and skin. Risk of serious damage to eyes.

Safety Statements: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. Do not breathe vapor.

US Statements: Target organ(s): Blood. Central nervous system.

Readily absorbed through skin.

UNITED STATES REGULATORY INFORMATION

SARA LISTED: No

TSCA INVENTORY ITEM: Yes

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