



Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 7-22-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - Tissue Homogenization Solution R-A
Product Number: TR-S0

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678 or (508) 429-5965
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|-----------------------|--------------|
| Guanidine Thiocyanate | 593-84-0 |
| Laurylsarcosine | 137-16-6 |
| Phenol | 108-95-2 |

Section 3 - Hazards Identification

Emergency overview

Corrosive
Highly Toxic
Suspected Carcinogen

Section 4- First Aid Measures



Ingestion

Drink 1 glass of water followed by 1 glass of milk. Get medical attention immediately

Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Remove phenol with undiluted polyethylene glycol 300 to 400 or isopropyl alcohol. Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

Water spray, carbon dioxide, dry chemical powder, or alcohol resistant foam

Firefighting

Protective Equipment

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Vapor may travel a considerable distance to source of ignition and flashback
Emits toxic fumes



Section 6 – Accidental Release Measures

Procedures in case of accidental leak or spill

Evacuate area

Shut off all sources of ignition

Personal Precaution Equipment

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

Clean-up procedures

Cover with dry-lime, sand or soda ash. Place in covered containers, using non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick-up is complete.

Section 7 – Handling and Storage

Handling

Wear appropriate safety equipment. Especially chemical resistant gloves, safety goggles, and other protective clothing. In very special cases, NIOSH/MSHA-approved respirator may be required. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

Storage

Room temperature. Keep away from heat, sparks, and open flame, or other sources of ignition.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

NIOSH-approved respirator

Hand

Compatible chemical-resistant gloves



Eye

Chemical safety goggles

General hygiene measures

Wash hands thoroughly after handling

Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid

Color: clear

Form: N/A

Characteristics

Molecular weight:

BP/BP range:

MP/MP range:

Freezing point:

Vapor Pressure:

Vapor Density:

Saturated vapor conc.:

SG/Density:

Bulk density:

Odor Threshold:

Volatile%:

V O C Content:

Water Content:

Solvent Content:

Evaporation Rate:

Viscosity:

Partition Coefficient:

Decomposition Temp.:

Flash Point F:

Flash Point C:

Explosion limits:

Flammability:

Autoignition Temp:



Section 10 – Stability and Reactivity

Stability

Stable

Incompatible agents

Oxidizing agents, high temperatures, visible light, acids.

Hazardous decomposition products

Ammonia, Nitrogen oxides, Sulfur containing gases, Hydrogen cyanide, Carbon monoxide, carbon dioxide., toxic gases.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|-----------------------|---------------|
| Guanidine Thiocyanate | XL1225000 |
| Laurylsarcosine | |
| Phenol | SJ3325000 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Nausea, headache and vomiting. Narcotic effects. Damage to the heart.

Target organs

Nerves, Lungs, Liver, Heart, Kidneys, CNS, and respiratory tract.

Section 12 – Ecological Information

Data not available.



Section 13 – Disposal Considerations

General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.

Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information

UN number: 2810

Proper shipping name: Toxic liquid, organic, n.o.s.

Hazard Class: 6.1

Hazard subclass:

Packing group: III

Section 15 – Regulatory Information

EU Directives Classification

Risk Statements

R: 24/25 34

Very toxic by contact with skin and ingestion. Causes Burns.

Safety Statements

S: 1 2 28 45

Section 16 – Other Information

Disclaimer

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

Warranty

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and is used only as a guide. Users are encouraged to investigate the suitability of the information with respect to their application. AutoGen, Inc. assumes no responsibility resulting from the use or handling of this compound.



Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 07-22-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - Tissue Lysis Solution R-B
Product Number: TR-S1

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|----------------------|--------------|
| Sodium Acetate | 127-09-3 |

Section 3 - Hazards Identification

Emergency overview

Caution: Avoid contact and inhalation

HMIS Rating

Health: 1
Flammability: 0
Reactivity: 1

NFPA Rating

Health: 1
Flammability: 0
Reactivity: 1



Section 4- First Aid Measures

Oral Exposure

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

Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Emits toxic fumes under fire conditions.



Section 6 – Accidental Release Measures

Personal Precaution Equipment

Use procedures to minimize direct contact with skin or eyes and prevent inhalation of dust.

Clean-up procedures

Sweep up, place in a bag and hold for waste disposal. Ventilate area and clean up using appropriate procedures.

Section 7 – Handling and Storage

Handling

Avoid inhalation. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure.

Storage

Room temperature.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

Dust mask

Hand

Compatible chemical-resistant gloves

Eye

Chemical safety goggles

General hygiene measures

Wash hands thoroughly after handling



Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid

Color: clear

Form: N/A

Characteristics

Molecular weight: 82.03

BP/BP range:

MP/MP range: 300°C

Freezing point:

Vapor Pressure:

Vapor Density:

Saturated vapor conc.:

SG/Density: 1.528 g/cm³

Bulk density: 320-470 kg/l

Odor Threshold:

Volatile%:

V O C Content:

Water Content:

Solvent Content:

Evaporation Rate:

Viscosity:

Partition Coefficient: Log Kow: -4.22

Decomposition Temp: 324°C

Flash Point F: > 480

Flash Point C: > 250

Explosion limits:

Flammability:

Autoignition Temp: 600°C

Section 10 – Stability and Reactivity

Stability

Stable



Incompatible agents

Strong oxidizing agents.

Hazardous decomposition products

Carbon monoxide, carbon dioxide.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|------------------|---------------|
| Sodium Acetate | AJ4300010 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Abdominal pain, headache and vomiting.

Section 12 – Ecological Information

Data not available.

Section 13 – Disposal Considerations

General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.

Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information



UN number: None
Proper shipping name: None
Hazard Class: None
Hazard subclass: None
Packing group: None

DOT: This substance is considered non-hazardous for transport.

IATA: This substance is non-hazardous for Air transport.

Section 15 – Regulatory Information

EU Directives Classification

Safety Statements

S: 22 24/25

Do not breathe dust. Avoid contact with skin and eyes.

Section 16 – Other Information

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Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 02-11-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - Tissue Denaturing Solution B
Product Number: TR-S2

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|----------------------|--------------|
| Chloroform | 67-66-3 |

Section 3 - Hazards Identification

Emergency overview

Highly Toxic
Suspected Carcinogen
Target organs: Nerves, Liver, Heart, CNS, Kidneys, and Teeth

Section 4- First Aid Measures

Ingestion

Get medical attention immediately



Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Vapor may travel a considerable distance to source of ignition and flashback

Section 6 – Accidental Release Measures

Procedures in case of accidental leak or spill

Evacuate area



Shut off all sources of ignition

Personal Precaution Equipment

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

Clean-up procedures

Cover with dry-lime, sand or soda ash. Place in covered containers, using non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick-up is complete.

Section 7 – Handling and Storage

Handling

Wear appropriate safety equipment. Especially chemical resistant gloves, safety goggles, and other protective clothing. In very special cases, NIOSH/MSHA-approved respirator may be required. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

Storage

Place at 4°C for storage under 1 month. Place at -20°C for long-term storage. Keep tightly closed. Keep away from heat, sparks, and open flame.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

NIOSH-approved respirator

Hand

Compatible chemical-resistant gloves

Eye

Chemical safety goggles

General hygiene measures

Wash hands thoroughly after handling



Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid
Color: dilute yellow
Form: N/A

Characteristics

Molecular weight:
BP/BP range:
MP/MP range:
Freezing point:
Vapor Pressure:
Vapor Density:
Saturated vapor conc.:
SG/Density:
Bulk density:
Odor Threshold:
Volatile%:
V O C Content:
Water Content:
Solvent Content:
Evaporation Rate:
Viscosity:
Partition Coefficient:
Decomposition Temp.:
Flash Point F:
Flash Point C:
Explosion limits:

Flammability:
Autoignition Temp:

Section 10 – Stability and Reactivity



Stability
Stable

Incompatible agents

Oxidizing agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals, ammonia

Hazardous decomposition products

Carbon monoxide, carbon dioxide.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|------------------|---------------|
| Chloroform | FS9100000 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Nausea, headache and vomiting. Narcotic effects. Damage to the heart.

Target organs

Nerves, Liver, Heart, Kidneys, CNS, and Teeth.

Section 12 – Ecological Information

Data not available.

Section 13 – Disposal Considerations



General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.

Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information

UN number:

Proper shipping name:

Hazard Class:

Hazard subclass:

Packing group:

Section 15 – Regulatory Information

EU Directives Classification

Risk Statements

R: 10 26/27/28 34 45

Flammable. Very toxic by Inhalation, contact with skin and ingestion. Causes Burns. May cause cancer.

Safety Statements

S: 15 36/37/38

Wear suitable protective clothing, gloves, and eye/face protection. Keep away from heat.

Section 16 – Other Information

Disclaimer

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Warranty

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Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 02-19-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - RNA Precipitation Solution A
Product Number: TR-S4

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|----------------------|--------------|
| Isopropanol | 66-63-0 |

Section 3 - Hazards Identification

Emergency overview

Flammable
Irritant
Target organs: Nerves, Kidneys.

HMIS Rating

Health: 2 (additional chronic hazards present)
Flammability: 3
Reactivity: 1

NFPA Rating

Health: 2
Flammability: 3
Reactivity: 1



Section 4- First Aid Measures

Ingestion

Wash mouth with water. Call physician.

Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Explosion hazard. Flashback hazard.



Section 6 – Accidental Release Measures

Procedures in case of accidental leak or spill

Evacuate area

Shut off all sources of ignition

Personal Precaution Equipment

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

Clean-up procedures

Cover with dry-lime, sand or soda ash. Place in covered containers, using non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick-up is complete.

Section 7 – Handling and Storage

Handling

Wear appropriate safety equipment. Especially chemical resistant gloves, safety goggles, and other protective clothing. In very special cases, NIOSH/MSHA-approved respirator may be required. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

Storage

Room temperature. Keep tightly closed. Keep away from heat, sparks, and open flame.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

NIOSH-approved respirator



Hand

Compatible chemical-resistant gloves

Eye

Chemical safety goggles

General hygiene measures

Wash hands thoroughly after handling

Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid

Color: colorless

Form: N/A

Characteristics

Molecular weight: 60.1

BP/BP range: 81-83°C

MP/MP range: -89.5°C

Freezing point: -88°C

Vapor Pressure: 33 mmHg @ 20°C

Vapor Density: 2.1 g/l

Saturated vapor conc.: N/A

SG/Density: 0.785 g/cm³

Bulk density: N/A

Odor Threshold: N/A

Volatile%: N/A

V O C Content: N/A

Water Content:

Solvent Content: N/A

Evaporation Rate: 3

Viscosity: 2.27 Pas @ 20°C

Partition Coefficient: Log Kow: 0.05

Decomposition Temp: N/A

Flash Point F: 53°F

Flash Point C: 12°C

Explosion limits: lower 2.5%

Upper 12%

Flammability: N/A

Autoignition Temp: 300°C



Section 10 – Stability and Reactivity

Stability

Stable (may form peroxides of unknown stability).

Incompatible agents

Oxidizing agents, acids, acid anhydrides, Halogens, Aluminum

Hazardous decomposition products

Carbon monoxide, carbon dioxide.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|------------------|---------------|
| Isopropanol | NT8050000 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Nausea, headache and vomiting. Narcotic effects.

Target organs

Nerves, Liver, Heart, Kidneys, CNS, GI system.

Section 12 – Ecological Information

Data not available.



Section 13 – Disposal Considerations

General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.

Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information

UN number: UN1993

Proper shipping name: flammable liquid, n.o.s

Hazard Class: 3

Hazard subclass: N/A

Packing group: II

Section 15 – Regulatory Information

EU Directives Classification

Risk Statements

R: 11 36 57

Flammable. Very toxic by Inhalation, contact with skin and ingestion. Causes Burns. May cause cancer.

Safety Statements

S: 7 16 24/25 26

Wear suitable protective clothing, gloves, and eye/face protection. Keep away from heat.

Section 16 – Other Information

Disclaimer

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Warranty

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Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 02-19-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - RNA Wash Solution A
Product Number: TR-5/6

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|----------------------|--------------|
| Ethanol | 64-17-5 |

Section 3 - Hazards Identification

Emergency overview

Highly Toxic
Suspected Carcinogen
Target organs: Nerves, Liver, Heart, CNS, Kidneys, and Teeth

Section 4- First Aid Measures

Ingestion

Get medical attention immediately



Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Vapor may travel a considerable distance to source of ignition and flashback

Section 6 – Accidental Release Measures

Procedures in case of accidental leak or spill

Evacuate area



Shut off all sources of ignition

Personal Precaution Equipment

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

Clean-up procedures

Cover with dry-lime, sand or soda ash. Place in covered containers, using non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick-up is complete.

Section 7 – Handling and Storage

Handling

Wear appropriate safety equipment. Especially chemical resistant gloves, safety goggles, and other protective clothing. In very special cases, NIOSH/MSHA-approved respirator may be required. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

Storage

Place at 4°C for storage under 1 month. Place at -20°C for long-term storage. Keep tightly closed. Keep away from heat, sparks, and open flame.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

NIOSH-approved respirator

Hand

Compatible chemical-resistant gloves

Eye

Chemical safety goggles

General hygiene measures

Wash hands thoroughly after handling



Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid

Color: dilute yellow

Form: N/A

Characteristics

Molecular weight:

BP/BP range:

MP/MP range:

Freezing point:

Vapor Pressure:

Vapor Density:

Saturated vapor conc.:

SG/Density:

Bulk density:

Odor Threshold:

Volatile%:

V O C Content:

Water Content:

Solvent Content:

Evaporation Rate:

Viscosity:

Partition Coefficient:

Decomposition Temp.:

Flash Point F:

Flash Point C:

Explosion limits:

Flammability:

Autoignition Temp:

Section 10 – Stability and Reactivity



Stability
Stable

Incompatible agents

Oxidizing agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals, ammonia

Hazardous decomposition products

Carbon monoxide, carbon dioxide.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|------------------|---------------|
| Ethanol | KQ6300000 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Nausea, headache and vomiting. Narcotic effects. Damage to the heart.

Target organs

Nerves, Liver, Heart, Kidneys, CNS, and Teeth.

Section 12 – Ecological Information

Data not available.

Section 13 – Disposal Considerations



General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.

Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information

UN number: UN1993

Proper shipping name: flammable liquid, n.o.s

Hazard Class: 3

Hazard subclass: N/A

Packing group: II

Section 15 – Regulatory Information

EU Directives Classification

Risk Statements

R: 10 26/27/28 34 45

Flammable. Very toxic by Inhalation, contact with skin and ingestion. Causes Burns. May cause cancer.

Safety Statements

S: 15 36/37/38

Wear suitable protective clothing, gloves, and eye/face protection. Keep away from heat.

Section 16 – Other Information

Disclaimer

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Warranty

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Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(800) 292-5678

Date revised: 08-22-05
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AGP245(T) Tissue RNA - Drying Solution
Product Number: TR-S7

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (800) 292-5678
Fax: (508) 429-9765

Section 2 – Composition/Information on Ingredients

| <u>Chemical name</u> | <u>CAS #</u> |
|---------------------------------|--------------|
| Ethanol (Ethyl alcohol) | 64-17-5 |
| Isopropanol (Isopropyl alcohol) | 67-63-0 |
| Methanol (Methyl alcohol) | 67-56-1 |

Section 3 - Hazards Identification

Emergency overview

Highly Toxic
Causes severe eye irritation, moderate skin irritation
Suspected Carcinogen
Target organs: Eye, Blood, Nerves, Liver, Heart, Kidneys, and Teeth



Section 4- First Aid Measures

Ingestion

Get medical attention immediately

Inhalation

Remove to fresh air. If breathing is impaired give oxygen. If breathing has stopped, give artificial respiration and contact emergency medical personnel.

Skin Contact

Wash with copious amounts of water. Remove contaminated clothing and contact a physician.

Eye contact

Flush with water for 15 minutes and contact a physician.

Wash contaminated clothing before reuse.

Section 5- Fire Fighting Measures

Extinguishing Media

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

Special Procedures

Use water spray to cool fire-exposed containers

Specific Hazards

Vapor may travel a considerable distance to source of ignition and flashback



Section 6 – Accidental Release Measures

Procedures in case of accidental leak or spill

Evacuate area

Shut off all sources of ignition

Personal Precaution Equipment

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

Clean-up procedures

Cover with dry-lime, sand or soda ash. Place in covered containers, using non-sparking tools. Transport outdoors. Ventilate area and wash spill site after material pick-up is complete.

Section 7 – Handling and Storage

Handling

Wear appropriate safety equipment. Especially chemical resistant gloves, safety goggles, and other protective clothing. In very special cases, NIOSH/MSHA-approved respirator may be required. Avoid contact with eyes, skin and clothing. Avoid prolonged or repeated exposure. Do not breathe vapor.

Storage

Place at 4°C for storage under 1 month. Place at -20°C for long-term storage. Keep tightly closed. Keep away from heat, sparks, and open flame.

Section 8 – Exposure controls/Personal Protection

Personal Protective Equipment

Respiratory

NIOSH-approved respirator

Hand

Compatible chemical-resistant gloves

Eye

Chemical safety goggles



General hygiene measures

Wash hands thoroughly after handling

Section 9 – Physical and Chemical Properties

Appearance

Physical State: liquid

Color: colorless

Form: N/A

Characteristics

Molecular weight:

BP/BP range:

MP/MP range:

Freezing point:

Vapor Pressure: 42mm Hg

Vapor Density: 1.6

Saturated vapor conc.:

SG/Density:

Bulk density:

Odor Threshold:

Volatile%:

V O C Content:

Water Content:

Solvent Content:

Evaporation Rate:

Viscosity: N/A

Partition Coefficient:

Decomposition Temp.:

Flash Point F: 41F

Flash Point C: 5C

Explosion limits:4 – 20 vol %

Flammability: Highly Flammable

Autoignition Temp: 752F (400C)

Section 10 – Stability and Reactivity

Stability

Stable



Incompatible agents

Oxidizing agents, peroxides, acids, acid chlorides, acid anhydrides, alkali metals, ammonia

Hazardous decomposition products

Carbon monoxide, carbon dioxide.

Hazardous polymerization

Will not occur.

Section 11 – Toxicological Information

RETCS

| <u>Component</u> | <u>Number</u> |
|------------------|---------------|
| Ethanol | KQ6300000 |
| Isopropanol | NT8050000 |
| Methanol | PC1400000 |

Routes of exposure

May be harmful by inhalation, ingestion, or skin absorption

Possible effects

Irritation of the skin, eyes, mucous membranes, and upper respiratory tract. CNS depression. Nausea, headache and vomiting. Narcotic effects. Damage to the heart.

Target organs

Nerves, Liver, Heart, Kidneys, CNS, and Teeth.

Section 12 – Ecological Information

Data not available.

Section 13 – Disposal Considerations

General Instructions

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting, as this material is highly flammable.



Observe all Federal, State, and Local environmental regulations.

Section 14 – Transport Information

UN number: UN1993
Proper shipping name: flammable liquid, n.o.s
Hazard Class: 3
Hazard subclass: N/A
Packing group: II

Section 15 – Regulatory Information

EU Directives Classification

Risk Statements

R: 10 26/27/28 34 45

Flammable. Very toxic by Inhalation, contact with skin and ingestion. Causes Burns. May cause cancer.

Safety Statements

S: 15 36/37/38

Wear suitable protective clothing, gloves, and eye/face protection. Keep away from heat.

Section 16 – Other Information

Disclaimer

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

Warranty

The factual information contained in this material safety data sheet is believed to be accurate and reflects, to the best of our knowledge, the currently available data pertaining to the chemicals. This information may be incomplete and is used only as a guide. Users are encouraged to investigate the suitability of the information with respect to their application. AutoGen, Inc. assumes no responsibility resulting from the use or handling of this compound.