



Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(508) 429-5965

Date revised: 03-01-06
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AutoGenFlex DNA Precipitation Solution
Product Number: AGF-R4

Company: AutoGen, Inc.
Address: 84 October Hill Rd.
Holliston, MA 01746
Phone: (508) 429-5965
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

Dangerous Components:

UN Number: 1993
Chemical: Isopropanol
Class: 3, Flammable liquid

Emergency Overview

Flammable liquid and vapor.
Vapor may cause flash fire.

Hazard Description:

Harmful if swallowed or inhaled. Causes irritation to skin, eyes and respiratory tract.

NFPA Rating (0-4)

Fire hazard 3



Health 1
Reactivity 0
Specific hazard 0

Section 4- First Aid Measures

General Information:

Immediately remove any clothing soiled by the substance .Wash affected area with copious amounts of water for at least 15 minutes and then soap and water. Speed in removing material from skin is extremely important. Use safety shower.

Eye Contact:

Rinse opened eye for at least 15 minutes under running water. Then consult at a physician.

Skin Contact:

Immediately wash with water and soap and rinse thoroughly. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Call physician immediately.

Inhalation:

Supply fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call physician immediately.

Swallowing:

If conscious, drink water and induce vomiting immediately as directed by medical personal. Never give an unconscious person anything to ingest.

Section 5- Fire Fighting Measures

Flammability of the Product

Product will burn

Auto-Ignition Temperature

399.05 C

Flash Points

Open cup: 11.9 C

Suitable Extinguishing Agents:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

Protective Clothing (Fire)

Be sure to use an approved/certified respirator or equivalent.

Section 6 – Accidental Release Measures

Small Spill and Leak



Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.

Large Spill and Leak

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7 – Handling and Storage

Handling:

Keep away from heat, sparks and flame. Keep container closed. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not breathe gas/fumes/ vapor/spray.

Storage:

Keep container in a cool, well-ventilated area.

Section 8 – Exposure controls/Personal Protection

Personal Protection

Use chemical safety goggles, protective gloves or vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Exposure Limits

ACGIH (United States, 1994).

STEL: 1230 mg/m³, 500 ppm

TWA: 983 mg/m³ Period: 10 hour(s), 400 ppm Period: 10 hour(s).

NIOSH REL (United States, 1994).

STEL: 1225 mg/m³, 500 ppm

TWA: 980 mg/m³ Period: 10 hour(s), 400 ppm Period: 10 hour(s).

OSHA Final Rule (United States, 1989).

STEL: 1225 mg/m³, 500 ppm

TWA: 980 mg/m³, 400 ppm ON MATERIALS

Section 9 – Physical and Chemical Properties

Appearance:

Colorless liquid with characteristic odor.

Boiling point: 82.4 C

Melting point: -89.5 C

Specific gravity: 0.786 (water=1)



Solubility in /Miscibility with water: Soluble in water.

Vapor density: 2.07

Vapor pressure: 32.4 (20 C) mmHg

Section 10 – Stability and Reactivity

Stability/Reactivity

Stable under ordinary handling conditions.

Incompatibility with Various Substances

Highly reactive with oxidizing agents.

Section 11 – Toxicological Information

CAS NO. Designation of Materials:

67-63-0 Isopropyl alcohol

Acute toxicity: oral mouse LD50, 4,960 mg/kg

Caustic effect on skin, mucous membranes and eye.

Acute Toxicity

Oral LD50: mouse 3,600mg/kg

Dermal LD50: rabbit 12,800mg/kg

Acute Effects on Humans

Extremely hazardous in case of eye contact (irritant). Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Non-permeator by skin. Hazardous in case of inhalation. Hazardous in case of ingestion.

Section 12 – Ecological Information

This product itself and its products of degradation are not toxic.

Section 13 – Disposal Considerations

Incineration, fuels blending or recycle. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14 – Transport Information

DOT Classification

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

UN number: UN1993

Packing Group: II

IMO/IMDG Classification

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

UN number: UN1993



Packing Group: II

TDG Classification

Not available

ICAO/IATA Classification

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

UN number: UN1993

Packing Group: II

Section 15 – Regulatory Information

U.S. Federal Regulations

TSCA 4(a) final test rules: ISOPROPYL ALCOHOL

TSCA 8(b) inventory: ISOPROPYL ALCOHOL

TSCA 8(d) H and S data reporting: ISOPROPYL ALCOHOL: 1986

TSCA 12(b) one time export: ISOPROPYL ALCOHOL

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: ISOPROPYL ALCOHOL

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ISOPROPYL ALCOHOL: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard

SARA 313 toxic chemical notification and release reporting: ISOPROPYL ALCOHOL

Clean Water Act (CWA) 307: No products were found.

Clean Water Act (CWA) 311: No products were found.

Clean air act (CAA) 112 accidental release prevention: No products were found.

Clean air act (CAA) 112 regulated flammable substances: No products were found.

Clean air act (CAA) 112 regulated toxic substances: No products were found.

Section 16 – Other Information

This bulletin is for your guidance and is based upon information and tests believed to be reliable. AutoGen makes no guarantee of the accuracy or completeness of the data and shall not be liable for any damages thereto. The data are offered solely for your consideration, investigation, and verification. These suggestions should not be confused with state, municipal, or insurance requirements, or with national safety codes and constitute no warranty. Any use of these data and information must be determined by the user to be in accordance with applicable federal, state, and local regulations.



Material Data Safety Sheet

AutoGen, Inc.
84 October Hill Rd.
Holliston, MA 01746
(508) 429-5965

Date revised: 11-23-04
Emergency Telephone Number: (800) 424-9300
Agent: CHEMTREC

Section 1 – Product and Company Information

Product Name: AutoGenFlex DNA Wash Solution
Product Number: AGF-R5

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

Section 2 – Composition/Information on Ingredients

<u>Chemical name</u>	<u>CAS #</u>
Ethanol	2-202
Isopropyl alcohol	67-63-0
Water	

Section 3 - Hazards Identification

Dangerous Components:

UN Number: 1993
Chemical: Ethanol/Isopropanol alcohol
Class: 3, Flammable liquid

Emergency Overview

Poison
Flammable liquid and vapor. Vapor may cause flash fire.

Hazard Description

Poison! Flammable liquid and vapor. Vapor may cause flash fire. May be fetal if swallowed. Cannot be made non-poisonous. Birth defect hazard. Harmful if inhaled or absorbed through skin. Causes respiration tract, eye and skin irritation. Contains material which causes danger to the following organs: blood, kidneys, reproductive system, liver, gastrointestinal, tract, respiratory tract, skin, central nervous system, eye, lens or cornea.



NFPA Rating (0-4)

Fire hazard	3
Health	1
Reactivity	0
Specific hazard	0

Section 4- First Aid Measures

General Information:

Immediately remove any clothing soiled by the substance .Wash affected area with copious amounts of water for at least 15 minutes and then soap and water. Speed in removing material from skin is extremely important. Use safety shower.

Eye Contact:

Rinse opened eye for at least 15 minutes under running water. Then consult at a physician.

Skin Contact:

Immediately wash with water and soap and rinse thoroughly. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Call physician immediately.

Inhalation:

Supply fresh air. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call physician immediately.

Swallowing

If conscious, drink water and induce vomiting immediately as directed by medical personal. Never give an unconscious person anything to ingest.

Section 5- Fire Fighting Measures

Flammability of the Product

Product will burn

Auto-Ignition Temperature

The lowest known value is 371 C (as ethanol)

Flash Points

Closed cup: 19.0 C (as ethanol)

Suitable Extinguishing Agents

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, auto ignition or explosion.

Protective Clothing (Fire)

Be sure to use an approved/certified respirator or equivalent.

Section 6 – Accidental Release Measures

Small Spill and Leak

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container.



Large Spill and Leak

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7 – Handling and Storage

Handling:

Keep away from heat, sparks and flame. Keep container closed. Do not get in eyes, on skin, or on clothing. Do not ingest. Do not breathe gas/fumes/ vapor/spray.

Storage:

Keep container in a cool, well-ventilated area.

Section 8 – Exposure controls/Personal Protection

Personal Protection

Use chemical safety goggles, protective gloves or vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate.

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Exposure Limits

Isopropyl alcohol

ACGIH (United States, 1994).

STEL: 1230 mg/m³, 500 ppm

TWA: 983 mg/m³ Period: 10 hour(s), 400 ppm Period: 10 hour(s).

NIOSH REL (United States, 1994).

STEL: 1225 mg/m³, 500 ppm

TWA: 980 mg/m³ Period: 10 hour(s), 400 ppm Period: 10 hour(s).

OSHA Final Rule (United States, 1989).

STEL: 1225 mg/m³, 500 ppm

TWA: 980 mg/m³, 400 ppm ON MATERIALS

Ethanol

ACGIH (United States, 1994).

TWA: 1880 mg/m³: 1000 ppm

NIOSH REL (United States, 2000).

TWA: 1900 mg/m³ Period: 10 hour(s): 1000 ppm Period: 10 hour(s).

OSHA Final Rule (United States, 1989).

TWA: 1900 mg/m³: 1000 ppm

Section 9 – Physical and Chemical Properties



Appearance:

Colorless liquid with characteristic odor.

Boiling point: The lowest known value is 78.3 C (Ethanol)

Melting point: Not determined.

Specific gravity: Not determined.

Solubility in /Miscibility with water: Soluble in water.

Vapor density: The highest known value is 2.07 (isopropyl alcohol)

Vapor pressure: The highest known value is 5.9 kPa (44 mmHg) at 25 C (Ethanol)

Section 10 – Stability and Reactivity

Stability/Reactivity

Stable under ordinary handling conditions.

Incompatibility with Various Substances

Reactive with oxidizing agents, acids.

Section 11 – Toxicological Information

CAS NO. Designation of Materials:

64-17-5 Ethanol

Acute toxicity: oral mouse LD50, 3,450mg/kg

67-63-0 Isopropyl alcohol (100%, W/V)

Acute toxicity: oral mouse LD50, 4,960 mg/kg

Caustic effect on skin, mucous membranes and eye.

Chronic Effects of Humans:

Developmental Toxicity: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED].

Contains material which may cause damage to the following organs: blood, the reproductive system, liver, upper respiratory tract, skin, eyes, central nervous system (CNS), eye, lens or cornea.

Acute Effects on Humans: Extremely hazardous in case of eye contact (irritant).

Inflammation of the eye is characterized by redness, watering, and itching. May be hazardous in case of skin contact (irritant). Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering. Non-permeator by skin. Hazardous in case of inhalation. Hazardous in case of ingestion.

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This product itself and its products of degradation are not toxic.

Section 13 – Disposal Considerations

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Section 14 – Transport Information

DOT Classification



Proper Shipping Name: Flammable liquid, n.o.s., (Ethanol/Isopropyl alcohol)
Hazard Class: 3
UN number: UN1993
Packing Group: II

ICAO/IATA Classification

Proper Shipping Name: Flammable liquid, n.o.s., (Ethanol/Isopropyl alcohol)
Hazard Class: 3
UN number: UN1993
Packing Group: II

Section 15 – Regulatory Information

U.S. FEDERAL REGULATIONS

TSCA 4(a) final test rules: ISOPROPYL ALCOHOL
TSCA 8(b) inventory: ISOPROPYL ALCOHOL; ETHANOL; WATER.
TSCA 8(d) H and S data reporting: ISOPROPYL ALCOHOL: 1986
TSCA 12(b) one time export: ISOPROPYL ALCOHOL
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SARA 302/304/311/312 hazardous chemicals: ISOPROPYL ALCOHOL; ETHANOL
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: ISOPROPYL ALCOHOL: Fire Hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard:
SARA 313 toxic chemical notification and release reporting: ISOPROPYL ALCOHOL
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