

# MATERIAL SAFETY DATA SHEET

Effective Date: 4/26/2002

High End Systems urges each customer or recipient of this MSDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology, and fire prevention, as necessary or appropriate to use and understand the data contained in this MSDS.

To promote safe handling, each customer or recipient should: (1) notify it's employees, agents, contractors and others whom it knows or believes will use this material of the information in this MSDS and any other information regarding hazards or safety; (2) furnish this same information to each of it's customers for the products; and (3) request it's customers to notify their employees, customers, and other users of the product of this information.

## I. IDENTIFICATION

**PRODUCT NAME:** "Atmospheres" HQ Fluid ("Stage" and "Coldflow" formulas contain different percentages of the CAS#'s and a higher percentage of water)

**FORMULA:** Food grade or high purity grade propylene glycol, triethylene glycol and de-ionized water

## II. PHYSICAL DATA

CAS# 57-55-6 and 112-27-6

BOILING POINT (760 mm Hg)	212-470° F
MELTING POINT	Not applicable
SPECIFIC GRAVITY (H <sub>2</sub> O=1)	1.082 AT 20° C
VAPOR PRESSURE AT 20° C	<.025mm Hg
VAPOR DENSITY (air=1)	3.9
SOLUBILITY IN WATER	Complete @ 70° F
EVAPORATION RATE(Butyl)	.003
APPEARANCE AND ODOR	Water-white liquid; mild odor

**HQ & Stage**  
FOG/SMOKE FLUID

**MSDS**

*Propylene glycol  
Triethylene glycol  
De-ionized water*

General Documents\F100 MSDS.doc

## III. INGREDIENTS

This product is a mixture of very low toxicity ingredients which are of high purity or food grade. According to OSHA this product is non-hazardous under (1910.1200). The largest single component of this product is de-ionized water.

## IV. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT	No flash point by Cleveland Open Cup and Penskey-Martin Closed Cup due to the fact that this is primarily a water based formula
AUTOIGNITION TEMP	Not Determined
FLAMMABLE LIMITS IN AIR % BY VOLUME	Not Determined
EXTINGUISHING MEDIA	Water spray or all purpose foams by manufacturers' recommended techniques for large fires. Use CO <sub>2</sub> or dry chemical media for small fires.
UNUSUAL FIRE AND EXPLOSION HAZARDS	None

## V. HEALTH HAZARD DATA

**TLV AND SOURCE:** Occupational exposure limits (PELs or TLVs) have not been established for any of the components of this product in the United States. In England, exposure limits for propylene glycol are: Vapor - 470mg/m<sup>3</sup> 8 hour time weighted average, Particulate - 10mg/m<sup>3</sup> 8 hour time weighted average.

### EFFECTS OF SINGLE OVEREXPOSURE:

**SWALLOWING:** No evidence of adverse effect for low dose. May cause nausea and vomiting in higher dosage.

**INHALATION:** No evidence of adverse effects from exposure to recommended levels. Should continuous exposure to high concentrations of fog be required professionally (i.e. fire training), a canister type particle mask designed for 10 to 20 micron filtration should be used.

**SKIN CONTACT:** May cause minimal irritation of areas exposed to liquid.

**EYE CONTACT:** If splashed in eyes, may cause minimal irritation seen as slight excess redness of the conjunctiva.

**EFFECTS OF REPEATED OVEREXPOSURE:** No evidence of adverse effects from available information.

**MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE:** A knowledge of the available toxicology information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

**EYES:** Flush with water.

**NOTES TO PHYSICIAN:** Treatment of overexposure should be directed at the control of symptoms and the clinical condition.

## VI. REACTIVITY DATA

This material is known to be stable and does not react violently with any of the following: Air, Water, Heat, Strong Oxidizers.

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS: Burning under certain conditions can produce aldehydes, ketones, carbon dioxide and / or carbon monoxide.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur. CONDITIONS TO AVOID: None

#### VII. SPILL OR LEAK PROCEDURES

STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Small spills should be flushed with large quantities of water. Larger spills should be collected for disposal.

WASTE DISPOSAL METHOD: Dispense as permitted under appropriate Federal and State regulations.

#### VIII. SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (specify type): None required under normal conditions of use.\* For repeated professional usage, see V (inhalation) VENTILATION: General (mechanical) room ventilation PROTECTIVE GLOVES: Rubber or polyvinyl chloride coated.

EYE PROTECTION: Protect eyes from liquid with safety glasses

#### IX. SPECIAL PRECAUTIONS

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Normal precautions common to good manufacturing practice should be followed in handling and storage. Avoid repeated contact with skin and clothing. This product is intended for professional use only and should be kept out of the reach of children.

#### X. REGULATORY INFORMATION

The criteria for listing components in the composition section is as follows:

Carcinogens are listed when present at 0.1% or greater; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or greater; non-hazardous components are listed at 3.0% or greater.

Product and/or Component(s) Carcinogenic According to:

OSHA	IARC	NTP	Other	None
_____	_____	_____	_____	X_____

#### PRODUCT IS NON-HAZARDOUS ACCORDING TO OSHA (1910.1200)

Federal Regulations: SARA Title III: Section 302/304 Extremely Hazardous Substances

Seq. Chemical Name	CAS Number	Range in %
None_____	_____	_____

#### Section 311 Hazardous Categorization:

Acute	Chronic	Fire	Pressure	Reactive	N/A
_____	_____	_____	_____	_____	X_____

#### Section 313 Toxic Chemical

Chemical Name	CAS Number	Concentration
None_____	_____	_____

#### CERCLA 102 (a) / DOT Hazardous Substances: (+ indicates DOT Hazardous Substance)

Seq. Chemical Name	CAS Number	Range in %
None_____	_____	_____

#### CERCLA / DOT Hazardous Substances (Sequence Numbers and RQ's):

Seq.	RQ
None_____	_____

TSCA Inventory Status: This product is listed on the Toxic Substance Control Act (TSCA) Chemical Substance inventory.

#### State Regulations:

California Proposition 65: The following detectable components of this product are substances, or belong to classes or substances, known to the State of California to cause cancer and/or reproductive toxicity.

Chemical Name	CAS Number
None_____	_____

#### States Right-to-know Regulations:

Chemical	State Right to know
CAS # 57-55-6, 112-27-6	PA, RI

State list: CT (Connecticut) FL (Florida) IL (Illinois) MI (Michigan) LA (Louisiana) MA (Massachusetts) NJ (New Jersey) PA (Pennsylvania) RI (Rhode Island)

#### International Regulations: WHMIS Classification: Not Regulated

Canada Inventory Status: All components are listed on the Canadian Domestic Substance List (DSL).

EINECS Inventory Status: All components are listed on the European Inventory of Existing Chemical Substances (EINECS).

Australia Inventory Status: All components are listed on the Australian Inventory of Chemical Substances (ACIS).

Japan Inventory Status: All components are listed on the Japanese MITI inventory.

**NOTE:** The opinions expressed herein are those of qualified experts within the field of Toxicology, Chemistry, and Information Specialists.

These include results of independent scientific studies and Toxicology reports. We believe that the information contained herein is current as of the date of the Material Safety Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of High End Systems, or American Safety it is the user's obligation to determine the conditions of safe use of the product.