Material Safety Data Sheet

NFPA	HMIS	PPE	Transport Symbol
			

Issuing Date 21-Feb-2007 **Revision Date** NOT AUTHORIZED **Revision Number** NOT AUTHORIZED

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name ROCKIN FOAM®

Recommended Use Waterfall Design and Construction

Supplier Address
Tierra Innovations, Inc.
5447 Laguna Park Drive
Elk Grove, CA. 95758
TEL: (916) 606-6102

Emergency Telephone Number
Chemtrec 1-800-424-9300
(703) 527-3887 outside US

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Contents under pressure.
Flammable gas.
Harmful by inhalation, in contact with skin and if swallowed.
May cause allergic respiratory reaction.
May cause sensitization by skin contact
Irritating to eyes, respiratory system and skin.
Persons allergic to isocyanates, and particularly those suffering from asthma or other respiratory conditions, should not work with isocyanates.
May cause drowsiness and dizziness.
May cause adverse cardiovascular effects.

Appearance Black **Physical State** Liquid Aerosol **Odor** Faint hydrocarbon

Potential Health Effects

Principle Routes of Exposure Inhalation, Skin contact, Eye contact.

Acute Toxicity

Eyes Irritating to eyes. Risk of serious damage to eyes.

Skin Harmful in contact with skin. Will bond to skin. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Inhalation Harmful by inhalation. Irritating to respiratory system. May cause allergic respiratory reaction. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Inhalation of vapors in high concentration may cause shortness of breath (lung edema). May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion May be harmful if swallowed. May cause additional affects as listed under "Inhalation". Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Product may cure in the gastrointestinal tract and form an obstruction. May cause adverse cardiac effects, blood disturbances, and metabolic acidosis.

Chronic Effects Repeated or prolonged exposure may cause central nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Aggravated Medical Conditions Allergies. Skin disorders. Respiratory disorders. Central nervous system. Preexisting eye disorders.

Interactions with Other Chemicals Irritants. Sensitizers. Epoxies. Use of alcoholic beverages may enhance toxic effects.

Environmental Hazard See Section 12 for additional Ecological information

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No	Weight %
Dimethyl ether	115-10-6	1-5
Flame Retardant	Proprietary	10-30
Polymethylene polyphenylene isocyanate	9016-87-9	10-30
Methylene bisphenyl isocyanate (MDI)	101-68-8	10-30
Polyol blend	Proprietary	10-30
Polyol blend	Proprietary	5-10
Isobutane	75-28-5	5-10
Methylenediphenyl diisocyanate	26447-40-5	1-5
Black Color	Mixture	3-10
Propane	74-98-6	1-5

4. FIRST AID MEASURES

General Advice Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.

Eye Contact Call a physician immediately. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing.

Skin Contact Wash skin with soap and water. If symptoms persist, call a physician. Remove and wash contaminated clothing before re-use.

Inhalation Move victim to fresh air. Apply artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.

Ingestion Call a physician or Poison Control Center immediately. May produce an allergic reaction. Do not induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person.

Notes to Physician Keep victim warm and quiet.

Protection of First-aiders Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. FIRE-FIGHTING MEASURES

Flammable Properties Containers may explode when heated.

Flash Point -104°C / -155°F

Suitable Extinguishing Media Use extinguishing agent suitable for type of surrounding fire. Dry chemical or CO2. Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists.

Explosion Data

Sensitivity to mechanical impact None
Sensitivity to static discharge Yes

Specific Hazards Arising from the Chemical
Some may burn but none ignite readily. Ruptured cylinders may rocket.

Protective Equipment and Precautions for Firefighters
Wear self-contained breathing apparatus and protective suit.

NFPA	**Health Hazard** 2	**Flammability** 4	**Stability** 1	**Physical and Chemical Hazards** -
HMIS	**Health Hazard** 2*	**Flammability** 4	**Stability** 1	**Personal Precautions** -

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation. Take precautionary measures against static discharges. Use personal protective equipment. Keep people away from and upwind of spill/leak.

Methods for Containment If possible, turn leaking containers so that gas escapes rather than liquid. Allow substance to evaporate. Dike to collect large liquid spills.

Methods for Cleaning Up Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal. Do not direct water at spill or source of leak.

Other Information Ventilate the area.

7. HANDLING AND STORAGE

Handling Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Keep away from open flames, hot surfaces and sources of ignition. Use only in an area containing flame proof equipment. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Do not stick pin or any other sharp object into opening on top of can.

Storage Keep containers tightly closed in a cool, well-ventilated place. Keep out of the reach of children. Keep at temperatures below 48.8 °C / 120 °F.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methylene bisphenyl isocyanate (MDI)	TWA: 0.005 ppm	Ceiling: 0.02 ppm Ceiling: 0.2 mg/m^3	75 mg/m^3
Isobutane	TWA: 1000 ppm	N/A	N/A
Propane	TWA: 1000 ppm	TWA: 1000 ppm	2100 ppm

NIOSH IDLH: Immediately Dangerous to Life or Health

Engineering Measures Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment

Eye/Face Protection	Safety glasses with side-shields.
Skin and Body protection	Impervious gloves. Lightweight protective clothing.
Respiratory Protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Black	**Odor**	Faint hydrocarbon
Odor Threshold	No information available	**Physical State**	Liquid Aerosol
pH	No information available		
Flash Point	-104°C / -155°F	**Autoignition Temperature**	Not applicable
Decomposition temperature	No data available	**Boiling Point/Range**	-42°C / -44°F
Melting Point/Range	No data available		
Flammability Limits in Air	No data available	**Explosion Limits**	No data available
Specific Gravity	1.01	**Water Solubility**	Not Compatible
Solubility	Compatible.	**Evaporation Rate**	No data available
Vapor Pressure	No data available	**Vapor Density**	No data available
VOC Content	Not applicable	**EPA VOC (g/l)**	155
Partition Coefficient (n-octanol/water)	No data available		

10. STABILITY AND REACTIVITY

Stability	Stable under recommended storage conditions
Conditions to Avoid	Keep away from open flames, hot surfaces and sources of ignition. Temperatures above 48.8 °C / 120 °F.
Incompatible Products	Water. Alcohols. Strong bases. Strong oxidizing agents. Finely powdered metals.
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Hydrogen cyanide.
Hazardous Polymerization	Hazardous polymerization does not occur

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Product Information Product does not present an acute toxicity hazard based on known or supplied information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dimethyl ether			308.5 mg/L (Rat) 4 h
Flame Retardant	500 mg/kg (Rat)	1230 mg/kg (Rabbit) 5000 mg/kg (Rat)	5 mg/L (Rat) 4 h
Polymethylene polyphenylene isocyanate	49 g/kg (Rat)	9400 mg/kg (Rabbit)	490 mg/m^3 (Rat) 4 h

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylene bisphenyl isocyanate (MDI)	9200 mg/kg (Rat)		
Polyol blend	2 g/kg (Rat)		
Polyol blend	64 mL/kg (Rat)	20 mL/kg (Rabbit)	
Isobutane			658 mg/L (Rat) 4 h
Methylenediphenyl diisocyanate		6200 mg/kg (Rabbit)	0.369 mg/L (Rat) 4 h
Propane		658 mg/kg (Rat)	

Subchronic Toxicity (28 days)

Chronic Toxicity

Chronic Toxicity Repeated or prolonged exposure may cause central nervous system damage. Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal. Chronic hydrocarbon abuse has been associated with irregular heart rhythms and potential cardiac arrest. Repeated or prolonged contact causes sensitization, asthma and eczemas.

Carcinogenicity There are no known carcinogenic chemicals in this product.

Mutagenicity

Reproductive Toxicity This product does not contain any known or suspected reproductive hazards

Target Organ Effects Central nervous system (CNS), Eyes, Respiratory system, Immune system, Skin, Cardiovascular system.

Endocrine Disruptor Information This product does not contain any known or suspected endocrine disruptors

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Flame Retardant	EC50 = 4 mg/L 96 h EC50 = 45 mg/L 72 h		EC50 = 295 mg/L 30 min	EC50 = 63 mg/L 48 h
Methylenediphenyl diisocyanate	EC50 = 3230 mg/L 96 h			EC50 > 1000 mg/L 24 h

Chemical Name	Log Pow
Dimethyl ether	-0.18
Flame Retardant	2.59
Isobutane	2.88
Propane	2.3

(Cured foam is non-toxic and safe for fish and plants.)

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Should not be released into the environment. Dispose of in accordance with local regulations. Allow foam to cure before disposal.

Contaminated Packaging Dispose of in accordance with local regulations

US EPA Waste Number D001

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name Consumer commodity
Hazard Class ORM-D

14. TRANSPORT INFORMATION

Description	Consumer commodity,ORM-D,

TDG

Proper Shipping Name	Aerosols
Hazard Class	2.1
UN-No	UN1950
Description	AEROSOLS,2.1,UN1950

MEX

Proper Shipping Name	Aerosols
Hazard Class	2.1
UN-No	UN1950
Description	UN1950 Aerosols,2.1

ICAO

UN-No	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1
Description	Aerosols,UN1950

IATA

UN-No	UN1950
Proper Shipping Name	Aerosols, flammable
Hazard Class	2.1
ERG Code	10L
Description	UN1950,Aerosols, flammable,2.1

IMDG/IMO

Proper Shipping Name	Aerosols
Hazard Class	2
UN-No	UN1950
EmS No.	F-D, S-U
Description	UN1950, Aerosols,2

RID

Proper Shipping Name	Aerosols
Hazard Class	2
UN-No	UN1950
Classification Code	5A
Description	UN1950 Aerosols,2,,RID
ADR/RID-Labels	2

ADR

Proper Shipping Name	Aerosols
Hazard Class	2
UN-No	UN1950
Classification Code	5A
ADR/RID-Labels	2

ADN

Proper Shipping Name	Aerosols
Hazard Class	2
Classification Code	5A
Special Provisions	63, 190, 191, 277, 913
Description	UN1950 Aerosols,2,
Hazard Labels	2
Limited Quantity	See SP277

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
CHINA	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values
Polymethylene polyphenylene isocyanate	9016-87-9	10-30	1.0
Methylene bisphenyl isocyanate (MDI)	101-68-8	10-30	1.0
Methylenediphenyl diisocyanate	26447-40-5	1-5	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	Yes
Reactive Hazard	No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Methylene bisphenyl isocyanate (MDI)	5000 lb	

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Methylene bisphenyl isocyanate (MDI)	X	X	X	X	X
Propane	X	X	X		X
Isobutane	X	X	X		
Dimethyl ether	X	X	X		X

International Regulations

Mexico - Grade

Chemical Name	Carcinogen Status	Exposure Limits
Methylene bisphenyl isocyanate (MDI)		Mexico: TWA= 0.005 ppm Mexico: TWA= 0.051 mg/m^3

Canada

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

WHMIS Hazard Class
A Compressed gases
B5 Flammable aerosol
D2A Very toxic materials

Chemical Name	NPRI
Methylene bisphenyl isocyanate (MDI)	X

Legend
NPRI - National Pollutant Release Inventory

16. OTHER INFORMATION

Issuing Date 21-Feb-2007

Revision Date NOT AUTHORIZED

Revision Note No information available

Disclaimer
The information provided on this MSDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of MSDS