




Material Safety Data Sheet

NFPA 	HMS <table border="1"><tr><td>Health Hazard</td><td>2*</td></tr><tr><td>Fire Hazard</td><td>4</td></tr><tr><td>Reactivity</td><td>1</td></tr></table>	Health Hazard	2*	Fire Hazard	4	Reactivity	1	PPE 	Transport Symbol 
Health Hazard	2*								
Fire Hazard	4								
Reactivity	1								

IssuingDate 27-Feb-2007

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RevisionNumber 5

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Wind-lock Foam 2 Foam

Recommended Use Insulation

Supplier Address Wind-lock Corp
81055 Leiscz's Bridge Rd
Leesport, PA 19533
USA TEL: (800) 872-5625

Emergency Telephone Number Chemtel 1-800-255-3924
(813) 248-0585 outside US

2. HAZARD IDENTIFICATION

WARNING!

Emergency Overview

Flammable gas. May cause flash fire.
Contents under pressure. Avoid temperatures above (120°F)
Irritating to eyes, respiratory system and skin. May cause an allergic skin or respiratory reaction.
Vapor reduces oxygen available for breathing. Lower oxygen levels may cause anesthetic effects.
May cause drowsiness and dizziness. Keep up wind of spill. Stay out of low areas.

Appearance Orange

Physical State Liquid Aerosol

Odor Faint hydrocarbon

Potential Health Effects

Principle Routes of Exposure

Inhalation, Skin contact, Eye contact.

Acute Toxicity

Eyes
Skin

Irritating to eyes. May cause slight temporary corneal injury due to adhesive character. Prolonged skin contact may cause moderate skin irritation with local redness. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Will bond to skin causing irritation upon removal.

Skin Absorption

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

Inhalation

Excessive exposure may cause irritation to upper respiratory tract. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. 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).

Respiratory Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.

Ingestion	Maybe harmful if swallowed. May cause additional effects 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	Tissue injury in the upper respiratory tract and lung has been observed in laboratory animals after repeated excessive exposures to MDI /Polymeric MDI aerosols. 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.
Birth /Developmental Effects:	In laboratory animals, MDI/Polymeric MDI did not cause birth defects; other fetal effects occurred only at high doses that were toxic to the mother.
Aggravated Medical Conditions	Allergies. Skin disorders. Respiratory disorders. Central nervous system. Preexisting eye disorders. Kidney disorders. Liver disorders.
Interactions with Other Chemicals	Irritants. Sensitizers. Epoxies. Use of alcoholic beverages may enhance toxic effects.

3.COMPOSITION/INFORMATION ON INGREDIENTS

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

4.FIRST AID MEASURES

General Advice	If emergency warrants call 911 or emergency medical service. Remove and wash soiled clothing before reuse.
Eye Contact	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. Obtain medical attention, preferably from an ophthalmologist.
Skin Contact	Remove wet material from skin immediately with corn oil or nail polish that contains acetone. If irritation symptoms persist, call a physician. Remove contaminated clothing; wash before reuse. Foam will stick to skin; studies demonstrate that cleaning very soon after exposure is most effective. If foam dries on skin, apply generous amounts of petroleum jelly or lanolin, put on plastic gloves and wait 1 hour. With a clean cloth, firmly wipe off petroleum jelly and repeat process if necessary. Do not attempt to remove dried foam with solvents.
Inhalation	Move victim to fresh air. Apply artificial respiration if victim is not breathing. If breathing is difficult, oxygen should be administered by qualified personnel. Call physician or transport to medical facility.
Ingestion	Call physician or Poison Control Center immediately. May produce an allergic reaction. Do not induce vomiting unless directed to do so by medical personnel. Drink plenty of water. Never give anything by mouth to an unconscious person.

NotestoPhysician Maintain adequateventilationand oxygenation ofthepatient.Maycauseasthma-like(reactive airways) symptoms.Maycauserespiratorysensitizationor asthma-like symptoms.Respiratorysymptoms, includingpulmonary edema,maybe delayed. Exposuremayincrease“myocardialirritability”. Ifyou are sensitizedtodiisocyanates,consultyour physicianregardingworkingwith other respiratory irritants or sensitizers. Nospecificantidote. Treatmentof exposureshouldbe directedatthecontrolof symptoms and theclinicalcondition ofthe patient.

ProtectionofFirst-AidersEnsurethatmedicalpersonnelare aware ofthematerial(s)involved, andtake precautionsto protect themselves.

5.FIRE-FIGHTING MEASURES

FlammableProperties Aerosolcansexposedto firecanruptureandspreadfire toother areas. Vaporsareheavier than airandmaytravelalongdistance andaccumulateinlowlying areas.

FlashPoint -104°C /-155°F (based onpropellant.)

SuitableExtinguishingMedia Isolatefireanddenyunnecessaryentry. Usean extinguishing agentsuitablefor typeoffire.Drychemical,CO2,water spray,fog or regular foam.Stay upwind.Keepout oflowareaswheregas fumescanaccumulate. Firedamagedcylindersshouldbehandled with extreme cautionandonlybyauthorized personnel.

ExplosionData

Sensitivityto mechanicalimpact None
Sensitivityto static discharge Yes.

SpecificHazardsArisingfromtheChemical

Propellantisflammableand will burn. Eliminate ignitionsources.Rupturedcylindersmayrocket. Chemicalsotherthanpropellantmay burnbutnoneignitreadily. Flashbackpossibleover considerabledistance. Thermal decompositioncanlead toreleaseof irritating gasesandvapors.In the event offire and/orexpllosiondonot breathefumes.

ProtectiveEquipmentandPrecautionsfor Firefighters

Wear self-contained breathingapparatusandprotective suit.

NEPA	HealthHazard2	Flammability4	Stability1	Physical andChemical Hazards-
HMIS	HealthHazard2*	Flammability4	Stability1	PersonalPrecautions-B

6.ACCIDENTALRELEASE MEASURES

PersonalPrecautions Do nottouch or walkthrough spilledmaterial.Useappropriate safetyequipment.Evacuate area. Keypeersonnelout oflowareas andconfinedor poorly ventilated areas. Keep upwind of spill.Ensureadequateventilation.Removeallsources ofignition.Nosmokingin area. Onlytrained and properlyprotected personnelmustbe involved inclean-upoperations.

Methodsfor Containment If possible,turnleakingcontainerssothatgasescapesrather thanliquid.Allowsubstanceto evaporate. Containspilledmaterialifpossiblewithoutrisk.Absorb with materialssuchas: Sawdust.Dirt.Vermiculite.Collect insuitableandproperlylabeledopencontainers. Donot place insealedcontainers. Curingfoam gives offCO2.Washwhat is left ofthespillsite with largequantitiesofwater.

Methodsfor CleaningUp Attempttoneutralizethespilled material byadding suitabledecontaminantsolution: Formulation1:Sodiumcarbonate5– 10%;liquiddetergent 0.2- 2%;water tomakeup to 100%.OR Formulation2:concentratedammoniasolution3– 8%;liquiddetergent0.2–2%; waterto makeup to100%. Ifammonia formulationisused,usegoodventilation toprevent vapor exposure. Sweepupand shovel intosuitablecontainers fordisposal.

Other Information Ventilatethe area.Curing foam gives offCO2. Donotputcuringfoam inasealed drum.

7. HANDLING AND STORAGE

Handling	Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Ensure adequate ventilation. Take necessary action to avoid static electricity discharge (which might cause ignition of organic propellant vapors). Keep away from open flames, hot surfaces and sources of ignition. Do not smoke. Avoid breathing vapors or mists. Contents under pressure. Do not puncture or incinerate cans. Containers, even those that have been emptied, can contain vapors. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers. 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 in properly labeled containers. Keep in an area equipped with sprinklers. Keep out of the reach of children. Ideal storage temperature is 16-32°C / 60-90°F. Storage above 32°C / 90°F will reduce its shelf-life. Never keep at temperatures above 48.8°C / 120°F.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Methylene bisphenylisocyanate (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: 2,500 ppm STEL 1,000 ppm, 3,500 mg/m ³	8Hr TWA: 1000 ppm 1,800.0 mg/m ³	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	Atmospheric levels of PMDI should be maintained below the exposure guidelines. If exposure limits are exceeded or irritation is experienced, use a NIOSH/MSHA approved air-purifying respirator equipped with an organic vapor absorbent and a particle filter. For situations where the atmospheric levels exceed the level for which an air-purifying respirator is effective, use a positive-pressure air-supplied respirator. Respiratory protection must be provided in accordance with current local regulations.
Hygiene Measures	When using, do not eat, drink or smoke. Maintain regular cleaning of equipment, work area and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Pale Amber	Odor	Fainthydrocarbon
Odor Threshold	No informationavailable	PhysicalState	LiquidAerosol
pH	No informationavailable		
FlashPoint	-104°C /-1w55°F(basedon propellant.)	AutoignitionTemperature	Not applicable
Decompositiontemperature	No dataavailable	BoilingPoint/Range	-42°C /-44°F
MeltingPoint/Range	No dataavailable	Viscosity	No informationavailable
FlammabilityLimits inAir	No dataavailable	ExplosionLimits	No dataavailable
SpecificGravity	1.05	Water Solubility	NotCompatible
Solubility	Compatible.	EvaporationRate	No dataavailable
Vapor Pressure	No dataavailable	Vapor Density	No dataavailable
		VOC	1.29(lbs/gal) 155(g/l)

10. STABILITY AND REACTIVITY

Stability	Stableunder recommendedstorageconditions
ConditionstoAvoid	Keep awayfromopenflames,hotsurfacesandsourcesof ignition. Temperaturesabove48.8°C /120°F.Exposureto elevated temperaturescancauseproducttodecompose.
IncompatibleProducts	Water.Alcohols.Strongbases.Strongoxidizing agents.Finely powderedmetals.
HazardousDecompositionProducts	Carbonmonoxide(CO),Carbon dioxide(CO ₂),Nitrogen oxides (NO _x),Hydrogen cyanide.
HazardousPolymerization	Hazardouspolymerizationdoes notoccur.

11. TOXICOLOGICAL INFORMATION**Acute Toxicity**

Sensitization - Skin Skincontactmaycausean allergic skinreaction. Animalstudieshaves shown thatskincontact withisocyanatesmayplayarole inrespiratorysensitization.

Sensitization –Respiratory Maycauseallergicrespiratoryresponse. MDI concentrationsbelowtheexposure guidelines maycauseallergicrespiratoryreactions inindividualsalready sensitized. Asthma-like symptomsmay includecoughing,difficultbreathingandafeeling oftightnessin thechest. Occasionally, breathingdifficultiesmaybelife threatening.

ChemicalName	LD50 Oral	LD50 Dermal	LC50 Inhalation
Flame Retardant	>2000mg/kg(Rat)	>2000mg/kg(Rat) 23700mg/kg(Rabbit)	>5.22mg/L(Rat) 4 h
Polymethylenepolyphenylene isocyanate	49 g/kg(Rat)	9400mg/kg(Rabbit)	490mg/m ³ (Rat)4 h
Methylene bisphenylisocyanate (MDI)	9200mg/kg(Rat)	5000mg/kg(Rat)	
Polyolblend	64mL/kg(Rat)	20mL/kg(Rabbit)	
Isobutane			658mg/L(Rat) 4h

ChemicalName	LD50 Oral	LD50 Dermal	LC50 Inhalation
Methylenediphenyldiisocyanate		6200mg/kg(Rabbit)	0.369mg/L(Rat)4 h
Propane		658mg/kg(Rat)	
Dimethylether			308.5 g/m ³ (Rat) 4 h

Chronic Toxicity	Repeated or prolonged exposure may cause central nervous system damage. Tissue injury in the upper respiratory tract and lung has been observed in laboratory animals after repeated excessive exposures to MDI/polymeric MDI aerosols. 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	Contains no known mutagenic chemicals.
Reproductive Toxicity	This product does not contain any known or suspected reproductive hazards
Target Organ Effects	Contains component(s) that have been reported to cause effects on the following organs in animals: Kidney, Liver, Bone marrow.
Endocrine Disruptor Information	This product does not contain any known or suspected endocrine disruptors

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Fate

Movement & Partitioning: In the aquatic and terrestrial environment, PMDI movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas.

Persistence and Degradability: In the aquatic and terrestrial environment, PMDI reacts with water forming predominantly insoluble polyureas that appear to be stable. In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

Ecotoxicity effects:

ChemicalName	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Flame Retardant	EC50 4.6mg/L 72			LC50 3.8-5.5mg/L 48 h
Methylenediphenyl diisocyanate	EC50 = 3230mg/L 96 h			EC50 > 1000mg/L 24 h
Dimethylether		LC50 (goldfish) 3677mg/L, 96 h		LC50 1852mg/L, 96 h

ChemicalName	LogPow
Isobutane	2.88
Propane	2.3
Dimethylether	-0.18

13. DISPOSAL CONSIDERATIONS

Waste Disposal Method	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	

14. TRANSPORT INFORMATION**DOT**

UN-No	UN1950
Proper ShippingName	UN1950,Aerosols,flammable,2.1, LTD QTY
Hazard Class	2.1
ERGCode	Guide127

TDG

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2.1
Description	UN1950,Aerosols,2.1

MEXI

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2.1
Description	UN1950,Aerosols,2.1

CAOI

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2.1
Description	UN1950,Aerosols

ATA

UN-No	UN1950
Proper ShippingName	Aerosols,flammable
Hazard Class	2.1
ERGCode	10L
Description	UN1950,Aerosols,flammable,2.1, LTD QTY

IMDG/IMO

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2.1
EmS No.	F-D, S-U
Description	UN1950,Aerosols,Flammable, 2.1,LTD QTY

RID

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2
ClassificationCode	5A
Description	UN1950,Aerosols,2,RID
ADR/RID-Labels	2

ADR

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2
ClassificationCode	5A
ADR/RID-Labels	2

ADN

UN-No	UN1950
Proper ShippingName	Aerosols
Hazard Class	2
ClassificationCode	5A
SpecialProvisions	63, 190,191,277,913
Description	UN1950,Aerosols,2
Hazard Labels	2
LimitedQuantity	SeeSP277

15.REGULATORYINFORMATION**InternationalInventories**

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

U.S.FederalRegulations

OSHA Hazard Communication Standard **This product isa“HazardousChemical”asdefinedbytheOSHAHazard CommunicationStandard,29CFR 1910.1200.**

SARA313

Section313 of Title III oftheSuperfundAmendmentsandReauthorizationActof1986(SARA).This productcontainsachemicalor chemicals that aresubjecttothereportingrequirements oftheActand Title40 oftheCode ofFederalRegulations,Part372

ChemicalName	CAS-No	Weight %	SARA313- Threshold Values
Polymethylenepolyphenyleneisocyanate	9016-87-9	10-30	1.0
Methylene bisphenylisocyanate(MDI)	101-68-8	10-30	1.0
Methylenediphenyldiisocyanate	26447-40-5	1-5	1.0

SARA311/312Hazard Categories

Acute Health Hazard	Yes
ChronicHealthHazard	Yes
FireHazard	Yes
SuddenRelease of PressureHazard	Yes
ReactiveHazard	No

CleanWater Act This productdoesnotcontainanysubstancesregulatedaspollutants pursuantto theCleanWater Act(40CFR 122)
CERCLA This material,assupplied,contains one ormoresubstancesregulatedasa hazardous substanceundertheComprehensive EnvironmentalResponseCompensation andLiabilityAct(CERCLA) (40CFR 302).

ChemicalName	HazardousSubstances RQs	ExtremelyHazardousSubstances RQs
Methylene bisphenylisocyanate(MDI)	5000 lb	

U.S.StateRegulations

CaliforniaProposition 65

This productcontainsnolisteds substancesknown to theState ofCaliforniatocausecancer, birthdefects orotherreproductiveharm,at levelswhichwouldrequireawarningunder thestatute.

U.S.StateRight-to-KnowRegulations

ChemicalName	Massachusetts	NewJersey	Pennsylvania	Illinois	Rhodelsland
Dimethylether	X	X	X		X
Propane	X	X	X		X
Isobutane	X	X	X		
Methylene bisphenyl isocyanate(MDI)	X	X	X	X	X

InternationalRegulations

Mexico- Grade

Seriousrisk,Grade3

The exposure limitsvaluesfor101-68-8are listed under two synonyms:

Diphenylmethanediisocyanate- 0.02ppmTWA;0.2mg/m³TWA

Methylenebisphenylisocyanate- 0.005ppmTWA; 0.051mg/m³TWA

ChemicalName	CarcinogenStatus	ExposureLimits
Methylene bisphenylisocyanate(MDI)		Mexico:TWA=0.2mg/m ³ Mexico:TWA=0.02 ppm
Diphenylmethanediisocyanate		Mexico:TWA=0.005 ppm Mexico:TWA=0.051mg/m ³

Canada

This product has been classifiedinaccordancewiththehazardcriteriaoftheControlledProductsRegulations(CPR) andthe MSDS containsalltheinformationrequiredbytheCPR.

WHMIShazard Class A

Compressedgases B5

Flammableaerosol

D2BToxic material



ChemicalName	NPRI
Methylene bisphenylisocyanate(MDI)	X

Legend:

NPRI- National PollutantReleaseInventory
 WHMIS–WorkplaceHazardousMaterials InformationSystem
 TSCA –ToxicSubstanceControlAct
 DSL–DomesticSubstanceList
 EINECS –EuropeanInventoryofExistingCommercialChemicalSubstances
 ENCS –Japan,Existing andNewChemicalSubstances
 KECL- KoreanExistingChemicalList
 PICS –PhilippineInventoryofChemicalsandChemicalSubstances
 AICS –AustralianInventoryofChemicalSubstances
 TDG–TransportationofDangerousGoodsAct
 ICAO–InternationalCivilAviationOrganization
 IATA –InternationalMaritimeDangerousGoodsCode
 IMDG –InternationalMaritimeDangerousGoodsCode

16.OTHER INFORMATION

IssuingDate 27-Feb-2007
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RevisionNote Revised section one

Disclaimer

Theinformationprovidedonthis MSDSisincorrect tothebest of our knowledge,informationandbeliefat thedateof its publication.Theinformationgivenisdesignedonlyasa guidefor safe handling,use,processing, storage,transportation, disposal andreleaseandisnot to beconsideredasawarrantyor qualityspecification. The informationrelatesonlytothe specific materialdesignatedandmaynotbevalidfor such materialusedin combinationwith anyother materialor in any process,unlesspecifiedinthetext.

End of MSDS