Material Safety Data Sheet

NFPA	HMIS	PPE	Transport Symbol
			

Issuing Date 13-Feb-2007 **Revision Date** **08-Oct-2012** **Revision Number 3**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name Touch 'n Seal® Quick Cure Straw Foam

Recommended Use Insulation

Supplier Address Convenience Products, Division of Clayton Corp.
866 Horan Drive
Fenton, MO 63026-2416
TEL: (636) 349-5333

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

2. HAZARDS 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 upwind of spill. Stay out of low areas.

Appearance Amber **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.May cause slight temporary corneal injury due to adhesive character.

Skin 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 A single prolonged exposure is unlikely to result in the material being absorbed in 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.

2. HAZARDS IDENTIFICATION

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

Tissue injury in the upper respiratory tract and lungs 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	10-30
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
Methylenediphenyl 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. Show this safety data sheet to the doctor in attendance. 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 a physician or transport to a medical facility.

Ingestion

Call a 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.

Notes to Physician Maintain adequate ventilation and oxygenation of the patient. May cause asthma-like (reactive airways) symptoms. May cause respiratory sensitization or asthma-like symptoms. Respiratory symptoms, including pulmonary edema, may be delayed. Exposure may increase "myocardial irritability". If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

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 Aerosol cans exposed to fire can rupture and spread fire to other areas. Vapors are heavier than air and may travel a long distance and accumulate in low lying areas.

Flash Point -104°C / -155°F (based on propellant.)

Suitable Extinguishing Media Isolate fire and deny unnecessary entry. Use an extinguishing agent suitable for type of fire. Dry chemical, CO_2 water spray, fog or regular foam. Stay upwind. Keep out of low areas where gas fumes can accumulate. Fire damaged cylinders should be handled with extreme caution and only by authorized personnel.

Explosion Data

Sensitivity to mechanical impact None

Sensitivity to static discharge Yes

Specific Hazards Arising from the Chemical Propellant is flammable and will burn. Eliminate ignition sources. Ruptured cylinders may rocket. Chemicals other than propellant may burn but none ignite readily. Flash back possible over considerable distance. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Protective Equipment and Precautions for Firefighters As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

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

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Do not touch or walk through spilled material. Use appropriate safety equipment. Evacuate area. Keep personnel out of low areas, confined or poorly ventilated areas. Keep upwind of spill. Ensure adequate ventilation. Remove all sources of ignition. No smoking in area. Only trained and properly protected personnel must be involved in clean-up operations.

Methods for Containment If possible, turn leaking containers so that gas escapes rather than liquid. Allow substance to evaporate. Contain spilled material if possible without risk. Absorb with materials such as: Sawdust. Dirt. Vermiculite. Collect in suitable and properly labeled open containers. Do not place in sealed containers. Curing foam gives off CO_2. Wash what is left of the spill site with large quantities of water.

Methods for Cleaning Up Attempt to neutralize the spilled material by adding suitable decontaminant solution: Formulation 1: Sodium carbonate 5 – 10%; liquid detergent 0.2 - 2%; water to make up to 100%, OR Formulation 2: concentrated ammonia solution 3 – 8%; liquid detergent 0.2 – 2%; water to make up to 100%. If ammonia formulation is used, use good ventilation to prevent vapor exposure. Sweep up and shovel into suitable containers for disposal.

Other Information

Ventilate the area. Ventilate the area. Curing foam gives off CO_2. Do not put curing foam in a sealed 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 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: 2,500 ppm STEL 1,000ppm, 3,500 mg/m^3	TWA: 1000 ppm 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	Amber	**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 / -43.6°F
Melting Point/Range	Not applicable		
Flammability Limits in Air	No data available	**Explosion Limits**	No data available
Specific Gravity	1.01	**Water Solubility**	Not Compatible
Solubility	No data available	**Evaporation Rate**	No data available
Vapor Pressure	No data available	**Vapor Density**	No data available
		EPA VOC	1.29 (lb/gal) 155(g/l)
Partition Coefficient (n-octanol/water)	Not applicable	**Viscosity**	No information 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. Exposure to elevated temperatures can cause product to decompose.

Incompatible Products Water. Alcohols. Strong bases. Strong oxidizing agents. Finely powdered metals.

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO_2), Nitrogen oxides (NOx), Hydrogen cyanide.

Hazardous Polymerization Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Sensitization - Skin Skin contact may cause an allergic skin reaction. Animal studies have shown that skin contact with isocyanates may play a role in respiratory sensitization.

Sensitization – Respiratory May cause allergic respiratory response. 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. Occasionally, breathing difficulties may be life threatening.

Product Information .

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Flame retardant	1,250 mg/kg (Rat)	>5,000 mg/kg (Rabbit) *	>4.6 mg/l (Rat) 4 h
Polymethylene polyphenylene isocyanate	49 g/kg (Rat)	9400 mg/kg (Rabbit)	490 mg/m^3 (Rat) 4 h
Methylene bisphenyl isocyanate (MDI)	9200 mg/kg (Rat)	5000 mg/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)	
Dimethyl ether			308.5 mg/L (Rat) 4 h

* A single dermal application produced no mortality. The product is a mild irritant to rabbit skin following a 24-hour exposure.

Chronic Toxicity

Chronic Toxicity	Repeated or prolonged exposure may cause central nervous system damage. Tissue injury in the upper respiratory tract and lungs 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 mutagenetic 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.

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
Dimethyl ether		LC50 (goldfish) 3677 mg/L, 96 h		LC50 1852 mg/L, 96 h

Chemical Name	Log Pow
Flame retardant	2.59
Isobutane	2.88
Propane	2.3
Dimethyl ether	-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	D001

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	Consumer commodity
Hazard Class	ORM-D
Description	Consumer commodity, ORM-D

14. TRANSPORT INFORMATION

TDG

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

MEX

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

ICAO

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

IATA

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

IMDG/IMO

UN-No	UN1950
Proper Shipping Name	Aerosols
Hazard Class	2.1
EmS No.	F-D, S-U
Description	UN1950, Aerosols, Flammable, 2.1

RID

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

ADR

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

ADN

UN-No	UN1950
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

OSHA Hazard Communication Standard	**This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29CFR 1910.1200.**

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.).

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 Regulations

California Proposition 65
WARNING! This product contains a chemical(s) known to the State of California to cause cancer, or birth defects or other reproductive harm. (concentration < 0.1%)

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

Serious risk, Grade 3
The exposure limits values for 101-68-8 are listed under two synonyms:
Diphenylmethane diisocyanate - 0.02 ppm TWA; 0.2 mg/m^3 TWA
Methylene bisphenyl isocyanate - 0.005 ppm TWA; 0.051 mg/m^3 TWA

Chemical Name	Carcinogen Status	Exposure Limits
Methylene bisphenyl isocyanate (MDI) Diphenylmethane diisocyanate		Mexico: TWA= 0.2 mg/m^3 Mexico: TWA= 0.02 ppm 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
D2B Toxic materials

Chemical Name	NPRI
Methylene bisphenyl isocyanate (MDI)	X

Legend:
NPRI - National Pollutant Release Inventory
WHMIS – Workplace Hazardous Materials Information System
TSCA – Toxic Substance Control Act
DSL – Domestic Substance List
EINECS – European Inventory of Existing Commercial Chemical Substances
ENCS – Japan, Existing and New Chemical Substances
KECL- Korean Existing Chemical List
PICS – Philippine Inventory of Chemicals and Chemical Substances
AICS – Australian Inventory of Chemical Substances
TDG – Transportation of Dangerous Goods Act
ICAO – International Civil Aviation Organization
IATA – International Maritime Dangerous Goods Code
IMDG – International Maritime Dangerous Goods Code

16. OTHER INFORMATION

Issuing Date 13-Feb-2007

Revision Date **Date 08-Oct-2012**

Revision Note Revised by Clayton Corporation EHS Department

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