



TUFFAK (R) XL Polycarbonate Sheet

Material Safety Data Sheet

Arkema Inc.

1 PRODUCT AND COMPANY IDENTIFICATION

Altuglas International

Arkema Inc.
2000 Market Street
Philadelphia, PA 19103

EMERGENCY PHONE NUMBERS:

Chemtrec: (800) 424-9300 (24hrs) or (703) 527-3887
Medical: Rocky Mountain Poison Control Center
(866) 767-5089 (24Hrs)

Information Telephone Numbers	Phone Number	Available Hrs
Altuglas International Customer Service	(800) 523-1532	8:00 am - 6:00pm EST

Product Name TUFFAK (R) XL Polycarbonate Sheet
Product Synonym(s)

Chemical Family Polycarbonate
Chemical Formula N/A
Chemical Name See Ingredients
EPA Reg Num
Product Use

2 COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient Name	CAS RegistryNumber	Typical %	OSHA
Methylene chloride	75-09-2	< 3 ppm	Y
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol], 4-(1,1-dimethylethyl)phenyl ester	103598-77-2	0-99	N
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol], 4-(1-methyl-1-phenylethyl)phenyl ester	111211-39-3	0-99	N
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol]	25971-63-5	0-99	N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

While this material is not classified as hazardous under Federal OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

The components of this product are all on the TSCA Inventory list.

3 HAZARDS IDENTIFICATION

Emergency Overview

Polycarbonate sheet material

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICES.

Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. As a finished product, it is a synthetic, high molecular weight polymer. Due to its chemical and physical properties, this material does not require special handling other than the good industrial hygiene and safety practices employed with any industrial material of this type. Under normal processing conditions, this material will release fume or vapor.



Components of these releases may vary with processing time and temperatures. These process releases may produce eye, skin and/or respiratory tract irritation and, with repeated or prolonged exposures, nausea, drowsiness, headache and weakness.

4 FIRST AID MEASURES

IF IN EYES, immediately flush with plenty of water.

IN CASE OF CONTACT, flush the area with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Get medical attention if irritation develops and persists.

IF INHALED, remove to fresh air.

5 FIRE FIGHTING MEASURES

Fire and Explosive Properties

Auto-Ignition Temperature	>510/950 F	
Flash Point	NA	Flash Point Method
Flammable Limits- Upper	NA	
Lower	NA	

Extinguishing Media

Use water spray, carbon dioxide, foam or dry chemical.

Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

Fire and Explosion Hazards

Heated material can form flammable vapors with air.

6 ACCIDENTAL RELEASE MEASURES

In Case of Spill or Leak

Contain spill. Sweep or scoop up and remove to suitable container. Consult a regulatory specialist to determine appropriate state or local reporting requirements, for assistance in waste characterization and/or hazardous waste disposal and other requirements listed in pertinent environmental permits.

7 HANDLING AND STORAGE

Handling

Avoid temperature extremes during storage; ambient temperature preferred.

Storage

Use only with adequate ventilation.

8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Investigate engineering techniques to reduce exposures below airborne exposure limits. Provide ventilation if necessary to control exposure levels below airborne exposure limits (see below). If practical, use local

**8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

mechanical exhaust ventilation at sources of air contamination such as open process equipment.

Eye / Face Protection

Use good industrial practice to avoid eye contact.

Skin Protection

Minimize skin contamination by following good industrial hygiene practice. Wearing protective gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

Respiratory Protection

Avoid breathing dust. When airborne exposure limits are exceeded (see below), use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. Consult respirator manufacturer to determine appropriate type equipment for given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where exposure limit may be significantly exceeded, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

Airborne Exposure Guidelines for Ingredients

Exposure Limit		Value
Methylene chloride		
ACGIH TWA	-	50 ppm 174 mg/m3
OSHA Skin designator	-	Y
OSHA STEL PEL	-	125 ppm
OSHA TWA PEL	-	25 ppm

-Only those components with exposure limits are printed in this section.

-Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantitate exposure. Measures to prevent significant cutaneous absorption may be required.

-ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.

-WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance/Odor	Polycarbonate sheet material
pH	NA
Specific Gravity	1.15 to 1.19
Vapor Pressure	NA
Vapor Density	NA
Melting Point	218 C/424 F
Freezing Point	NA
Boiling Point	NA
Solubility In Water	Insoluble
Percent Volatile	0

10 STABILITY AND REACTIVITY**Stability**

This material is chemically stable under normal and anticipated storage and handling conditions.

Hazardous Polymerization

Does not occur.

Incompatibility

None known.

Hazardous Decomposition Products

Thermal decomposition may yield toxic hydrocarbons which includes methane, phenolics, bisphenol A, diphenyl carbonate.

11 TOXICOLOGICAL INFORMATION**Toxicological Information**

Bisphenol A- carbonic dichloride copolymer 4-(1-methyl-1-phenylethyl)phenyl ester

Single exposure (acute) studies indicate that a similar material is practically non-toxic if swallowed (rat LD50 >5,000 mg/kg), no more than slightly toxic if absorbed through skin (rabbit LD50 >2,000 mg/kg), non-irritating to rabbit skin and slightly irritating to rabbit eyes.

12 ECOLOGICAL INFORMATION**Ecotoxicological Information**

No data are available.

Chemical Fate Information

No data are available.

13 DISPOSAL CONSIDERATIONS**Waste Disposal**

Incineration is the recommended method for disposal observing all local, state and federal regulations.

14 TRANSPORT INFORMATION

DOT Name	NOT REGULATED
DOT Technical Name	
DOT Hazard Class	
UN Number	
DOT Packing Group	PG
RQ	

15 REGULATORY INFORMATION



TUFFAK (R) XL Polycarbonate Sheet

Material Safety Data Sheet

Arkema Inc.

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

Immediate (Acute) Health	N	Fire	N
Delayed (Chronic) Health	N	Reactive	N
		Sudden Release of Pressure	N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities

	CERCLA RQ	SARA TPQ
Methylene chloride	1000 LBS	
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol], 4-(1,1-dimethylethyl)phenyl ester	NE	
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol]	NE	
Carbonic dichloride, polymer with 4,4'-(1-methylethylidene)bis[phenol], 4-(1-methyl-1-phenylethyl)phenyl ester	NE	NE

SARA Title III, Section 313

This product does contain chemical(s) which are defined as toxic chemicals under and subject to the reporting requirements of, Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372. See Section 2

Methylene chloride

California Prop 65 - Carcinogen

This product does contain the following chemical(s), as indicated below, currently on the California list of Known Carcinogens.

Methylene chloride

Massachusetts Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Massachusetts Right to Know Substance List.

Methylene chloride

New Jersey Right to Know

This product does contain the following chemical(s), as indicated below, currently on the New Jersey Right-to-Know Substances List.

Methylene chloride

Pennsylvania Environmental Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Environmental Hazard List.

Methylene chloride

Pennsylvania Right to Know

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Hazardous Substance List.

Methylene chloride

Pennsylvania Special Hazard

This product does contain the following chemical(s), as indicated below, currently on the Pennsylvania Special Hazard List.

Methylene chloride

16 OTHER INFORMATION



TUFFAK (R) XL Polycarbonate Sheet

Material Safety Data Sheet

Arkema Inc.

Revision Information

Revision Date 03 MAY 2005 Revision Number 10
Supercedes Revision Dated 03-MAY-2005

Revision Summary

The Atoglas Division of Arkema Inc. has changed its name to Altuglas International.

Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark

Arkema Inc. believes that the information and recommendations contained herein (including data and statements) are accurate as of the date hereof. NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN. The information provided herein relates only to the specific product designated and may not be valid where such product is used in combination with any other materials or in any process. Further, since the conditions and methods of use are beyond the control of Arkema Inc., Arkema Inc. expressly disclaims any and all liability as to any results obtained or arising from any use of the product or reliance on such information.