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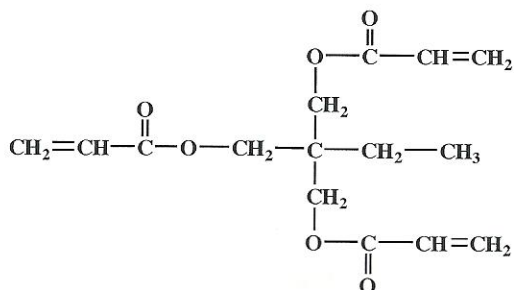
Sartomer Company, Inc.  
Oaklands Corporate Center  
502 Thomas Jones Way  
Exton, PA 19341  
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## product bulletin: SR-351

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### TRIMETHYLOLPROPANE TRIACRYLATE



#### DESCRIPTION

SR-351, trimethylolpropane triacrylate (TMPTA), is a low viscosity, low volatility liquid monomer which offers fast cure response and low volatility during free-radical polymerization.

#### PRODUCT HIGHLIGHTS

Fast cure response  
Low volatility

#### PERFORMANCE PROPERTIES

Weatherability  
Water and chemical resistance  
Hardness & abrasion resistance  
Heat resistance

#### SUGGESTED APPLICATIONS

Paints, including road paint  
Electronics; photopolymers  
Structural, pressure sensitive adhesives  
Ion exchange resins  
Glass, optical, metal, PVC floor coatings  
Wood, paper, textile, release coatings  
Litho, offset, screen inks

#### SR-351

#### TYPICAL PHYSICAL AND CHEMICAL PROPERTIES

Functionality	3
Appearance	Clear liquid
Inhibitor, ppm.	125 HQ, 175 MEHQ
Solvent, wt. %	0.1
Water, wt. %	0.2
Acid, wt. %	0.05
Color, APHA (G=Gardner scale)	40
Specific Gravity @ 25 °C	1.109
Viscosity, cps.	106 @ 25C
Refractive Index	1.4723
Surface Tension, dynes/cm.	36.1
Tg, °C	62
Molecular Weight	296

The information in this bulletin is believed to be accurate, but all recommendations are made without warranty since the conditions of use are beyond SARTOMER Company's control. The listed properties are illustrative only, and not product specifications. Sartomer Company disclaims any liability in connection with the use of the information, and does not warrant against infringement by reason of the use of its products in combination with other material or in any process.

# Sartomer USA, LLC

## Material Safety Data Sheet

Product: SR351  
MSDS ID: D-006172

Revised Date: 06-29-2011

### 01. GENERAL INFORMATION

Sartomer USA, LLC  
Oaklands Corporate Center  
502 Thomas Jones Way  
Exton, Pennsylvania 19341

Emergency phone number:  
CHEMTREC: 1-800-424-9300 (within USA) or 1-703-527-3887 (outside USA)

Medical Emergency phone number:  
Rocky Mountain Poison Control: 1-303-623-5716

Product information:  
1-610-363-4100

GENERIC NAME  
Trimethylolpropane Triacrylate

DOT PROPER SHIPPING NAME  
N/AP  
DOT HAZARD CLASS  
Not regulated

UN/NA NUMBER  
N/AP

### 02. SUMMARY OF HAZARDS

#### WARNING

PHYSICAL HAZARDS: Unstable (reactive) upon depletion of inhibitor

ACUTE HEALTH EFFECTS: Moderate eye irritant  
(SHORT-TERM) Moderate skin irritant  
Skin sensitizer  
Respiratory tract irritation hazard  
No ingestion hazard identified from data found  
Moderate skin absorption hazard

CHRONIC HEALTH EFFECTS: See Supplement section of MSDS for chronic health  
(LONG-TERM) effects data.

### 03. COMPONENTS

COMPONENT NAME	CAS NUMBER	% COMPOSITION (BY WT.)
Trimethylolpropane Triacrylate (TMPTA)	15625-89-5	AP 100

### 04. PHYSICAL AND CHEMICAL DATA

BOILING POINT	pH
N/DA	AP 6.8 to 7.2
FREEZING POINT	DRY POINT
-66C/-87F	N/DA

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SPECIFIC GRAVITY (H2O=1 at 39.2F) AP 1.09-1.12 at 25C/77F	VOLATILE CHARACTERISTICS Negligible
VISCOSITY UNITS, TEMP. (Brookfield) AP 70 to 130 cps at 25C/77F	SOLUBILITY IN WATER Negligible
VAPOR PRESSURE 0.0002 mm Hg at 25C/77F 0.024 mm Hg at 100C/212F	STABILITY Stable
VAPOR SP GR (AIR=1 at 60 - 90F) GT 1	HAZARDOUS POLYMERIZATION May occur

### APPEARANCE AND ODOR

Clear, water white liquid with mild, acrylic odor

### CONDITIONS AND MATERIALS TO AVOID

High temperatures, localized heat sources (ie, drum or band heaters), oxidizing conditions, freezing conditions, direct sunlight, ultraviolet radiation, inert gas blanketing;  
Strong oxidizers, strong reducers, free radical initiators, inert gases, oxygen scavengers

### HAZARDOUS DECOMPOSITION PRODUCTS

Acrid smoke-fumes/carbon monoxide/carbon dioxide and perhaps other toxic vapors may be released during a fire involving this product.

## 05. OCCUPATIONAL EXPOSURE LIMITS

SUBSTANCE	SOURCE	TYPE	VALUE	TIME
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A PEL or TLV has not been established

TMPTA	AIHA	WEEL*	1 mg/m3 (skin)	8 hours
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\*WEEL = Workplace Environmental Exposure Level

## 06. FIRE AND EXPLOSION

FLASH POINT METHOD=(PMCC)  
GT 93C/200F

AUTOIGNITION TEMP. METHOD=  
N/AP

FLAMMABLE LIMITS (% VOLUME IN AIR)  
LOWER: N/AP      UPPER: N/AP

### FIRE AND EXPLOSION HAZARDS

High temperatures, inhibitor depletion, accidental impurities, or exposure to radiation or oxidizers may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during runaway polymerization.

### EXTINGUISHING MEDIA

Dry chemical  
CO2



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Water spray  
Foam  
Water fog

### SPECIAL FIREFIGHTING PROCEDURES

Do not enter fire area without proper protection. See Section 4 - decomposition products possible. Fight fire from safe distance/protected location. Heat/impurities may increase temperature/build pressure/rupture closed containers, spreading fire, increasing risk of burns/injuries. Water may be ineffective in firefighting due to low solubility. Use water spray/fog for cooling. Pressure relief system may plug with solids, increasing risk of overpressure. Notify authorities if liquid enters sewer/public waters.

## **07. HEALTH HAZARDS**

### ROUTES OF EXPOSURE

#### INHALATION

No significant signs or symptoms indicative of any adverse health hazard are expected to occur at standard conditions due to the low volatility of this material. However, aerosols, or vapors which may be generated at elevated processing temperatures, may cause respiratory tract irritation. Symptoms of irritation may include coughing, mucous production and shortness of breath.

#### EYE CONTACT -- PRIMARY ROUTE

May cause moderate irritation with symptoms including burning sensation, tearing, redness or swelling.

#### SKIN ABSORPTION -- PRIMARY ROUTE

Exposure to this material can result in absorption through skin causing health hazard.

#### SKIN IRRITATION -- PRIMARY ROUTE

May cause delayed skin irritation and blistering.

Symptoms of irritation may include localized redness or rash, blistering and swelling of the affected area. Prolonged contact with this material may cause a more severe skin response. Symptoms may be delayed 24-48 hours.

Repeated exposure may cause sensitization: an allergic response of the skin.

#### INGESTION

No significant signs or symptoms indicative of any adverse health hazard are expected to occur as a result of ingestion.

#### MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

This material or its emissions may defat skin, cause contact dermatitis, or otherwise aggravate existing skin disease.

## **08. PROTECTIVE EQUIPMENT / CONTROL MEASURES**

### RESPIRATORY PROTECTION

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If this material is handled at elevated temperature or under mist forming conditions, NIOSH/MSHA approved respiratory protection equipment should be used.

### EYE PROTECTION

Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor. Contact lenses should not be worn.

### SKIN PROTECTION

When skin contact is possible, protective clothing including gloves, apron, sleeves, boots, head and face protection should be worn. This equipment must be cleaned thoroughly after each use.

Nitrile and butyl rubber are the recommended glove types for handling this material.

### ENGINEERING CONTROLS

If handling results in aerosol or vapor generation, local exhaust ventilation is recommended.

### OTHER HYGIENIC PRACTICES

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.

### OTHER WORK PRACTICES

Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Promptly remove soiled clothing/wash thoroughly before reuse. Shower after work using plenty of soap and water.

## **09. EMERGENCY AND FIRST AID**

### INHALATION

If overcome by exposure, remove victim to fresh air immediately. Give oxygen or artificial respiration as needed. Obtain emergency medical attention. Prompt action is essential.

### EYE CONTACT

In case of eye contact, immediately rinse with clean water for 20-30 minutes. Retract eyelids often. Obtain emergency medical attention.

### SKIN CONTACT

Immediately remove contaminated clothing. Wash skin thoroughly with mild soap/water. Flush w/lukewarm water for 15 minutes. If sticky, a waterless cleaner may be used. Seek medical attention if ill effect or irritation develops.

### INGESTION

Not expected to present a significant ingestion hazard under anticipated conditions of normal use. However, if ingested, obtain emergency medical attention.

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EMERGENCY MEDICAL TREATMENT PROCEDURES  
Treat symptomatically.

### **10. SPILL AND DISPOSAL**

#### PRECAUTIONS IF MATERIAL IS SPILLED OR RELEASED

Spilled or released material may polymerize and release heat/gases. Extinguish all ignition sources and ventilate area. Wear protective equipment during clean-up. Dike and recover large spill. Soak up small spill with inert solids (such as vermiculite, clay) and sweep/shovel into vented disposal container. Wash spill area with a strong detergent and water solution; rinse with water but minimize water use during clean-up. For spills on water, contain, minimize dispersion and collect. Dispose/report per regulatory requirements.

#### WASTE DISPOSAL METHODS

Non-contaminated, properly inhibited material is not a RCRA hazardous waste. However, contaminated material/soil/water may be RCRA/OSHA hazardous waste due to potential for internal heat generation (see 40 CFR 261 and 29 CFR 1910). It is the responsibility of the generator to determine at the time of disposal whether the material meets the criteria of a hazardous waste. Comply with all applicable federal, state and local regulations. Use registered transporters. Disposal options include landfilling solids at permitted sites; fuel blending or incinerating liquids. Assure emissions comply with applicable regulations. Dilute aqueous waste may biodegrade; avoid overloading/poisoning plant biomass. Assure effluent complies with applicable regulations.

### **11. ADDITIONAL PRECAUTIONS**

#### HANDLING AND STORAGE PROCEDURES

Wear appropriate protective equipment when handling this material (See Section 8 of MSDS). Most acrylic monomers have low viscosities; hence, pouring, material transfer and processing of these materials do not necessitate heating. Viscous monomers may require heating to facilitate handling. To facilitate product transfer from original container, product may be heated to 60C/140F for not more than 24 hours. Do NOT use localized heat sources such as band heaters to heat/melt product. Do NOT use steam. Hot boxes or hot rooms are recommended for heating/melting material. The hot box or hot room should be set at a maximum temperature of 60C/140F. Do not overheat--this may compromise product quality and/or result in an uncontrolled hazardous polymerization. If product freezes, heat as indicated above and mix gently to redistribute the inhibitor. Product should be consumed in its entirety after heating/melting--avoid multiple "re-heats" which may affect product quality or result in product degradation. Product is packaged with inhibitor(s). Unless inhibited, product can polymerize, raising temperature and pressure possibly rupturing container. Check inhibitor content periodically, adding to bulk material if needed. In addition, the product's inhibitor(s) require the presence of dissolved oxygen. Maintain, at a minimum, the original headspace in the product container and do not blanket or mix with oxygen-free gas as it

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renders inhibitor ineffective. Ensure air space (oxygen) is present during product heating/melting.

Store product indoors at temperatures greater than product's freezing point (or greater than 0C/32F if no freezing point available) and below 38C/100F. Avoid prolonged (longer than shelf-life) storage temperatures above 38C/100F. Store in tightly closed containers in a properly vented storage area away from: heat, sparks, open flame, strong oxidizers, radiation, and other initiators. Prevent contamination by foreign materials. Prevent moisture contact. Use only non-sparking tools and limit storage time. Unless specified below, shelf-life is 6 months from receipt.

### DECONTAMINATION PROCEDURES

Follow standard plant procedures or supervisor's instructions for decontamination operations.

## 12. LABEL INFORMATION

USE STATEMENT

FOR INDUSTRIAL USE ONLY

SIGNAL WORD

WARNING

PHYSICAL HAZARDS

UNSTABLE (REACTIVE) UPON LOSS OF INHIBITOR

HEALTH HAZARDS

CAUSES EYE AND SKIN IRRITATION

MAY CAUSE ALLERGIC SKIN REACTION

PRECAUTIONARY MEASURES

HAZARDOUS POLYMERIZATION MAY OCCUR UPON DELETION OF INHIBITOR.

DO NOT HANDLE NEAR HEAT, SPARKS, OR OPEN FLAME.

AVOID CONTACT WITH EYES, SKIN AND CLOTHING.

AVOID BREATHING VAPORS/MISTS.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

WASH THOROUGHLY AFTER HANDLING.

KEEP CONTAINER CLOSED WHEN NOT IN USE.

BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEET (MSDS).

## 13. SUPPLEMENT

NPCA HMIS RATING

Health	2
Flammability	1
Reactivity	1
Personal protection**	D

\*\*Respiratory protection may be necessary depending on conditions of use. Refer to Section 8 of the MSDS for guidelines on respiratory protection.

### CHRONIC HEALTH EFFECTS INFORMATION

Mutagenicity results for Trimethylolpropane Triacrylate (TMPTA) are mixed. In the Ames test, TMPTA yielded a weakly positive response with metabolic

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activation and a negative response without metabolic activation. TMPTA was also positive in the mouse lymphoma assay but negative in the UDS assay. More recently, TMPTA yielded positive results in an *in vitro* mammalian chromosome aberration test.

An *in vivo* bone marrow micronucleus test was performed in 2006 and no genetic changes were observed.

A dermal carcinogenicity study on TMPTA was negative.

### REGULATORY INFORMATION

#### TSCA STATUS:

TSCA status: All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

#### TSCA Section 12(b):

TSCA Section 12(b) - Export Notification: This product does not contain any chemicals at concentrations subject to Section 12(b) export notification.

#### CALIFORNIA PROPOSITION 65:

California Proposition 65 Information: This product contains, or may contain, trace quantities of a substance(s) known to the state of California to cause cancer and/or reproductive toxicity.

#### INTERNATIONAL INVENTORY STATUS:

Australia (AICS):	included on inventory
Canada (DSL):	included on inventory
China (IECSC):	included on inventory
Europe (EINECS):	included on inventory
Japan (ENCS):	included on inventory
Korea (ECL):	included on inventory
New Zealand (NZIoC):	included on inventory
Philippines (PICCS):	included on inventory

This material contains an inhibitor (HQ, MEHQ, etc.) at <1%. The type and amount meet product specifications. Contact a company representative for exact concentrations and details on inhibitor level maintenance.

\*Note - qualifiers and codes used in this MSDS  
EQ = Equal; AP = Approximately; LT = Less Than; GT = Greater Than;  
TR = Trace; UK = Unknown; N/AP = Not Applicable; N/P = No Applicable  
Information Found; N/DA = No Data Available



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