

HD Pattern Company
www.hidefpattern.com

MATERIAL SAFETY DATA SHEET
HD Pattern Resin

EMERGENCY PHONE Chemtrec: 1-800-424-9300

01. GENERAL INFORMATION

GENERIC NAME

Methacrylic Esters

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:
(SHORT-TERM)

Suspect slight eye irritation hazard
Suspect slight skin irritation hazard
Suspect skin sensitization hazard
Suspect slight respiratory tract irritation hazard
Not expected to be a skin absorption hazard
Suspect slight ingestion hazard

CHRONIC HEALTH EFFECTS:
(LONG-TERM)

No chronic health effects information is available
for this product

03. COMPONENTS

COMPONENT NAME

CAS NUMBER

% COMPOSITION (BY WT.)

Methacrylic Esters

Proprietary

> 98

Photoinitiators

Proprietary

< 2

04. PHYSICAL AND CHEMICAL DATA

BOILING POINT

pH

N/DA

N/DA

FREEZING POINT

DRY POINT

N/DA

N/DA

SPECIFIC GRAVITY (H₂O=1 AT 39.2F)

VOLATILE CHARACTERISTICS

1.10-1.125 at 25C/77F

Negligible

VISCOSITY UNITS, TEMP. (Brookfield)

SOLUBILITY IN WATER

160-530 cps at 25C/77F

VAPOR PRESSURE

N/DA

VAPOR SP GR (AIR=1 AT 60 - 90F)

N/DA

APPEARANCE AND ODOR

Yellowish liquid (or having a pigmented color) with musty odor

Negligible

STABILITY

Stable

HAZARDOUS

POLYMERIZATION

May occur

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 in its uncured state.

05. OCCUPATIONAL EXPOSURE LIMITS

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

06. FIRE AND EXPLOSION

FLASH POINT METHOD=(PMCC)

GT 93C/200F

FLAMMABLE LIMITS (% VOLUME IN AIR)

LOWER: N/DA

AUTOIGNITION TEMP. METHOD=

N/DA

UPPER: N/DA

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

Foam

Use water spray/water fog for cooling

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

Although no appropriate human or animal health effects data are known to exist, this material is expected to cause slight eye irritation.

Symptoms of irritation may include excessive tearing, blinking and redness.

SKIN ABSORPTION -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is not expected to be a health hazard by skin absorption.

SKIN IRRITATION -- PRIMARY ROUTE

Although no appropriate human or animal health effects data are known to exist, this material is expected to be a slight skin irritant.

Symptoms of irritation may include a slight localized redness or rash and swelling of the affected area.

Although no appropriate human or animal health effects data is known to exist, this material may cause an allergic skin reaction (sensitization) in susceptible individuals upon repeated exposure.

INGESTION

Although no appropriate human or animal health effects data is known to exist, this material is expected to be a slight ingestion hazard.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE

This material or its emissions may induce an allergic or sensitization reaction and thereby aggravate systemic disease.

08. PROTECTIVE EQUIPMENT / CONTROL MEASURES

RESPIRATORY PROTECTION

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

Depending on the conditions of use, protective gloves, apron, boots, head and face protection should be worn. This equipment should be cleaned thoroughly after each use.

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 if pain, blinking, tears or redness persist.

SKIN CONTACT

Remove contaminated clothing as needed. Wash skin thoroughly with mild soap/water. Flush with lukewarm water for 15 minutes. If sticky, use waterless cleaner first.

INGESTION

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

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 product is not a RCRA hazardous waste. However, contaminated product/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 product 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 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 elsewhere, 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

MAY CAUSE ALLERGIC SKIN REACTION

PRECAUTIONARY MEASURES

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

KEEP CONTAINER CLOSED WHEN NOT IN USE.

HAZARDOUS POLYMERIZATION MAY OCCUR UPON DEPLETION OF INHIBITOR.

AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

AVOID BREATHING VAPORS/MISTS.

USE ONLY WITH ADEQUATE VENTILATION/PERSONAL PROTECTION.

WASH THOROUGHLY AFTER HANDLING.

BEFORE USING PRODUCT, READ MATERIAL SAFETY DATA SHEET.

13. SUPPLEMENT

NPCA HMIS RATING

Health 2

Flammability 1

Reactivity 2

Personal protection** D

**Respiratory protection may be necessary depending on conditions of use.

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.

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

Europe (EINECS): Polymer

Japan (ENCS): Included on inventory

Korea (ECL): Not included on inventory

Philippines (PICCS): Not included on inventory

China: 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

14. DISCLAIMERS

Some of the information presented and conclusions drawn herein are from sources other than direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.

This MSDS was prepared and is to be used only for this product. If the product is used as a component in another product, this MSDS information may not be applicable. This MSDS has been prepared in accordance with the requirements of the OSHA Hazard Communication Standard (29 CFR 1910.1200).