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MATERIAL SAFETY DATA SHEET – POLYCARBONATE

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

24-Hour Emergency Phone Number: 517-636-4400

Product: CALIBRE* 200 TNT POLYCARBONATE RESIN

Product Code: 14649

Effective Date: 02/03/99

Date Printed: 5/11/99

MSD: 002173

The Dow Chemical Company, Midland, MI 48674

Customer Information Center: 800-258-2436

2. COMPOSITION/INFORMATION ON INGREDIENTS

Polycarbonate

CAS # 103598-77-2

94-99%

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

Milky white or colored solid. Odorless. No significant immediate hazards for emergency response are known. Toxic fumes are released in fire situations.

POTENTIAL HEALTH EFFECTS (See Section 11 for toxicological data.)

Eye: Solid or dust may cause irritation or corneal injury due to mechanical action.

Skin: Essentially nonirritating to skin; mechanical injury only. Skin absorption is unlikely due to physical properties.

Ingestion: Single dose oral toxicity is considered to be extremely low. No hazards anticipated from swallowing small amounts incidental to normal handling operations.

Inhalation: Dust may cause irritation to upper respiratory tract.

Systemic (Other Target Organ) Effects: No relevant information found.

4. FIRST AID

Eyes: Flush eyes with plenty of water; mechanical effects only.

Skin: No adverse effects anticipated by this route or exposure incidental to proper industrial handling.

Ingestion: No adverse effects anticipated by this route of exposure incidental to proper industrial handling.

Inhalation: Remove to fresh air if effects occur. Consult a physician.

Note to Physician: No specific antidote. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASH POINT: Not applicable

METHOD USED: Not applicable

AUTOIGNITION TEMPERATURE: Not applicable

FLAMMABILITY LIMITS

LFL: Not applicable

UFL: Not applicable

HAZARDOUS COMBUSTION PRODUCTS: Under fire conditions polymers decompose. The smoke may contain polymer fragments of varying compositions in addition to unidentified toxic and/or irritating compounds. Hazardous combustion products may include and are not limited to carbon monoxide and carbon dioxide. Hazardous combustion products may include trace amounts of: phenol.

OTHER FLAMMABILITY INFORMATION: Dense black smoke is emitted when burned without sufficient oxygen. Mechanical handling can cause formation of dusts. To reduce the potential for dust explosion, do not permit dust to accumulate.

EXTINGUISHING MEDIA: Water, carbon dioxide, dry chemical.

FIRE FIGHTING INSTRUCTIONS: Keep people away. Isolate fire area and deny unnecessary entry. Cool surroundings with water to localize fire zone. Hand held carbon dioxide or dry chemical extinguishers may be used for small fires. Soak thoroughly with water to cool and prevent re-ignition.

PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, pants, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

6. ACCIDENTAL RELEASE MEASURES (See Section 15 for Regulatory Information)

PROTECT PEOPLE: Pellets or beads may present a slipping hazard.

PROTECT THE ENVIRONMENT: Keep out of irrigation ditches, sewers, and water supplies. Spills should be collected to prevent contamination of waterways.

CLEAN UP: Sweep up.

7. HANDLING AND STORAGE

HANDLING: Good housekeeping and controlling for dusts are necessary for safe handling of product. Processing improperly dried resin can result in the production of bisphenol A. Workers should be protected from the possibility of contact with molten resin.

STORAGE: Store in a dry place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

PERSONAL PROTECTIVE EQUIPMENT EYE/FACE PROTECTION: Use safety glasses. If there is a potential for exposure to particles which could cause mechanical injury to the eye, wear chemical goggles.

SKIN PROTECTION: No precautions other than clean body-covering clothing should be needed.

RESPIRATORY PROTECTION: For most conditions, no respiratory protection should be needed; however, if handling at elevated temperature without sufficient ventilation, use an approved air-purifying respirator. In dusty atmospheres, use an approved dust respirator.

EXPOSURE GUIDELINE: None established.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Clear or opaque solid.

ODOR: Odorless

VAPOR PRESSURE: Not applicable.

VAPOR DENSITY: Not applicable.

BOILING POINT: Not applicable.
SOLUBILITY IN WATER: Not applicable.
SPECIFIC GRAVITY: 1.19-1.23

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Thermally stable at typical use temperatures.

CONDITIONS TO AVOID: Avoid temperatures above 797°F, 425°C. Product can decompose at elevated temperatures.

INCOMPATIBILITY WITH OTHER MATERIALS: None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Processing may release fumes which may include polymer fragments and other decomposition products. Fumes can be irritating. At temperatures exceeding melt temperatures polymer fragments can occur. Hazardous decomposition products depend upon temperature, air supply, and the presence of other materials. Toxic gases are released during decomposition. Hazardous decomposition products may include and are not limited to bisphenol A.

HAZARDOUS POLYMERIZATION: Will not occur.

11. TOXICOLOGICAL INFORMATION (See Section 3 for Potential Health Effects. For detailed toxicological data, write or call the address or non-emergency number shown in Section 1).

INGESTION: Single dose oral LD50 has not be determined.

12. ECOLOGICAL INFORMATION (For detailed Ecological data, write or call the address or non-emergency number shown in Section 1)

ENVIRONMENTAL FATE

MOVEMENT & PARTITIONING: No bio-concentration is expected because of the relatively high molecular weight (MW greater than 1000). In the terrestrial environment, these solid pellets are expected to remain in the soil. In the aquatic environment, the pellets will sink and remain in the sediment.

DEGRADATION & PERSISTENCE: This water insoluble polymeric solid is expected to be inert in the environment. Surface photodegradation is expected with exposure to sunlight. No appreciable biodegradation is expected.

ECOTOXICITY: Not expected to be acutely toxic, but pellets may mechanically cause adverse effects, if ingested by aquatic life.

13. DISPOSAL CONSIDERATIONS (See Section 15 for Regulatory Information)

DISPOSAL: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal methods must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different

locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator.

THE DOW CHEMICAL COMPANY HAS NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION 2 (Composition/Information On Ingredients)

FOR UNUSED & UNCONTAMINATED PRODUCT: The preferred options include sending to a licensed, permitted recycler, reclaimer, incinerator, or other thermal destruction device.

As a service to its customers, Dow can provide names of information resources to help identify waste management companies and other facilities which recycle, reprocess or manage chemicals or plastics, and that manage used drums. Telephone Dow's Customer Information Center at 800-258-2436 or 517-832-1556 for further details.

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION (D. O. T.): This product is not regulated by D. O. T. when shipped domestically by land.

CANADIAN TOG INFORMATION: This product is not regulated by TDG when shipped domestically by land.

15. REGULATORY INFORMATION (Not meant to be all-inclusive – selected regulations represented)

NOTICE: The information herein is presented in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied is given. Regulatory requirements are subject to change and may differ from one location to another; it is the buyer's responsibility to ensure that its activities comply with federal, state or provincial, and local laws. The following specific information is made for the purpose of complying with numerous federal, state or provincial, and local laws and regulations. See other sections for health and safety information.

U. S. REGULATIONS

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title 111) and is considered, under applicable definitions, to meet the following categories:

Not to have met any hazard category

TOXIC SUBSTANCES CONTROL ACT (TSCA): All ingredients are on the TSCA inventory or are not required to be listed on the TSCA inventory.

STATE RIGHT-TO-KNOW: This product is not known to contain any substances subject to the disclosure requirements of:
New Jersey
Pennsylvania

OSHA HAZARD COMMUNICATION STANDARD: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

CANADIAN REGULATIONS

WHMIS INFORMATION: The Canadian Workplace Hazardous Materials Information System (WHMIS) Classification for this product is:

This product is not a "Controlled Product" under WHMIS.

16. OTHER INFORMATION:

MSDS STATUS: Revised Section 13, Disposal