SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY UNDERTAKING

IDENTIFICATION OF THE MIXTURE

TRADE/MATERIAL NAME:
STI Marine Firestop Collars (MFC, MFCW, MFCT, MFCG)

RELEVANT USE of the SUBSTANCE:
Firestop Device

USES ADVISED AGAINST:
Other than relevant Use

SUPPLIER/MANUFACTURER’S NAME:
STI Marine Firestop: A division of Specified Technologies, Inc.
210 Evans Way,
Somerville, New Jersey 08876
(908) 526-8000 (8:00am to 5:00pm Eastern Standard Time)
U.S., Canada: 1-800-255-3924 (24 hrs)
International: +1-813-248-0585 (collect-24 hrs)

EMAIL of Competent Person for Information on SDS: techserv@stimarine.com

ALL United States Occupational Safety and Health Administration (OSHA) Standard, 29 CFR Parts 1910, 1915, 1917, 1918 and 1926, and the U.S. OSHA Instruction CPL 02-02-079, July 9, 2015, U.S. State equivalent Standards, Canadian WHMIS [Controlled Products Regulations], European Union REACH and CLP EC 1272/2008, Mexican NOM018-STS0 2000, SPRING Singapore, and Japanese JIS Z7525 required information is included in appropriate sections based on the Global Harmonization Standard (GHS). This product has been classified in accordance with the hazard criteria of the countries listed above.

This product is defined as an “Article” under the U.S. Federal OSHA Hazard Communication Standard (29 CFR 1910.1200), EU Directives, and the Canadian Workplace Hazardous Materials Standard. Refer to Section 15 (Regulatory Information) for specific regulatory citations. As articles, this product presents negligible health and physical hazards under reasonably anticipated circumstances of use. Subsequently, a Safety Data Sheet is not required under Standards cited above. This document is prepared to provide persons using this product with additional safety information.

2. HAZARD IDENTIFICATION

GLOBAL HARMONIZATION, U.S. OSHA, JAPANESE JIS Z7525, EU REACH AND CLP REGULATION (EC) 1272/2008 AND THE TAIWAN REGULATION OF LABELING AND HAZARD COMMUNICATION OF DANGEROUS AND HARMFUL MATERIALS; This product has been classified per GHS Standards under U.S., European, Japanese and Taiwanese regulations. This product is an article and is not required to be classified under any regulations.

KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION: As an article, this product is not subject to ISHA Notice 2009-68.

3. COMPOSITION and INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS #</th>
<th>EINECS or ELNICS #</th>
<th>Chinese IECSC Inventory</th>
<th>Japanese ENCS #</th>
<th>Korean ECL #</th>
<th>Taiwan NESCI ECS</th>
<th>WT%</th>
<th>LABEL ELEMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>231-955-3</td>
<td>Listed</td>
<td>Excepted as Mineral</td>
<td>KE-18101</td>
<td>Listed</td>
<td>40-50</td>
<td>Classification Not Applicable</td>
</tr>
<tr>
<td>1,3-Butadiene Homopolymer, Hydroxy Terminated</td>
<td>69102-90-5</td>
<td>Not Listed</td>
<td>Listed</td>
<td>6-722, 6-757</td>
<td>KE-03730</td>
<td>Listed</td>
<td>25-30</td>
<td>Classification Not Applicable</td>
</tr>
<tr>
<td>Soybean Oil</td>
<td>8001-22-7</td>
<td>232-274-4</td>
<td>Listed</td>
<td>Not Listed</td>
<td>KE-31718</td>
<td>Listed</td>
<td>20-25</td>
<td>Classification Not Applicable</td>
</tr>
<tr>
<td>Methylene Bisphenyl Isocyanate</td>
<td>101-68-8</td>
<td>202-966-0</td>
<td>Listed</td>
<td>1-561</td>
<td>KE-35565</td>
<td>Listed</td>
<td>0.5-2.0%</td>
<td>PUBLISHED CLASSIFICATION U.S. OSHA, REACH, EU CLP, JAPANESE JIS Z7525, KOREAN ISHA &amp; GHS</td>
</tr>
</tbody>
</table>

Classification: Carcinogenic Cat. 2, Acute Inhalation Toxicity Cat. 4, Skin Irritation Cat. 2, Eye Irritation Cat. 2A, Skin Sensitization Cat. 1B, Respiratory Sensitization Cat. 1B, STOT (Inhalation-Respiratory Irritation) SE Cat. 3, STOT RE Cat. 2 Hazard Codes: H351, H332, H315, H317, H319, H334, H335, H373 |

Proprietary Red pigment Mixture | Mixture | Proprietary | Classification Not Applicable |
Other Trace ingredients | Balance | Classification Not Applicable |

See Section 16 for full text of Classification
4. FIRST-AID MEASURES
DESCRIPTION OF FIRST AID MEASURES: Contaminated individuals must be taken for medical attention if any adverse effects occur. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Take a copy of label and SDS to physician or health professional with the contaminated individual. Wash clothing and thoroughly clean shoes before reuse.

Skin Exposure: If adverse skin effects occur, discontinue use and flush contaminated area. Seek medical attention if adverse effect occurs after flushing.

Inhalation: If heated or fumes or vapors are inhaled, remove victim to fresh air. If necessary, use artificial respiration to support vital functions. Seek medical attention if adverse effect continues after removal to fresh air.

Eye Exposure: If this particles from this product contaminates the eyes, rinse eyes under gently running water. Use sufficient force to open eyelids and then “roll” eyes while flushing. Minimum flushing is for 20 minutes. The contaminated individual must seek medical attention if any adverse effect continues after rinsing.

Ingestion: Due to the form of the product, ingestion is unlikely.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known.
INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT IF NEEDED: Treat symptoms and eliminate exposure.

5. FIRE-FIGHTING MEASURES
FLASH POINT: Not determined.
AUTOIGNITION TEMPERATURE: Not available.
FLAMMABLE LIMITS (in air by volume, %): Not applicable.
FIRE EXTINGUISHING MEDIA: Use extinguishing materials suitable for the surrounding area.
UNSUITABLE FIRE EXTINGUISHING MEDIA: None known.
UNUSUAL FIRE AND EXPLOSION HAZARDS: This product is formulated to be non-flammable and non-combustible. When involved in a fire, this material may decompose and produce irritating vapors and toxic gases (e.g., carbon and nitrogen oxides, phthalates, ammonia, formaldehyde, hydrogen cyanide, nitriles, isocyanates, nitrosamines, hydrogen chloride, and acrylic monomers).

Explosion Sensitivity to Mechanical Impact or Static Discharge: Not sensitive.

SPECIAL PROTECTIVE ACTIONS FOR FIRE-FIGHTERS: Incipient fire responders should wear eye protection. Structural firefighters must wear Self-Contained Breathing Apparatus (SCBA) and full protective equipment. Move containers from fire area if it can be done without risk to personnel. Water spray can be used to cool fire-exposed containers. Water fog or spray can also be used by trained firefighters to disperse this product’s vapors and to protect personnel. If possible, prevent runoff water from entering storm drains, bodies of water, or other environmentally sensitive areas.

6. ACCIDENTAL RELEASE MEASURES
PERSONAL PRECAUTIONS AND EMERGENCY PROCEDURES: If this product is contaminated by chemical products, this situation should be responded to by trained personnel using pre-planned procedures. Proper protective equipment should be used. Call CHEMTREC (1-800-424-9300) for emergency assistance. Or if in Canada, call CANUTEC (613-996-6666). The atmosphere must at least 19.5 percent Oxygen before non-emergency personnel can be allowed in the area without Self-Contained Breathing Apparatus and fire protection.

6. ACCIDENTAL RELEASE MEASURES (Continued)
PERSONAL PROTECTIVE EQUIPMENT: Proper protective equipment should be used.

Small and Large Spills: Wear sturdy gloves to protect against cuts, eye protection, and appropriate body protection. Steel-toed boots are recommended to protect against injury to feet.

METHODS FOR CLEAN-UP AND CONTAINMENT: Spills of this product present minimal hazard.
Small and Large Spills: This product can be picked-up and should be disposed of properly if the product cannot be reclaimed.
All Spills: Place all residue in appropriate containment and seal. Take other measures to protect human health and the environment as necessary. Rinse area with soap and water solution and follow with a water rinse. Decontaminate the area thoroughly. Do not mix with wastes from other materials. Dispose of in accordance with applicable Federal, State, and local procedures (see Section 13, Disposal Considerations). For spills on water, contain, minimize dispersion and collect. Dispose of recovered material and report spill per regulatory requirements.

ENVIRONMENTAL PRECAUTIONS: Run-off water may be contaminated by other materials and should be contained to prevent possible environmental damage.
REFERENCE TO OTHER SECTIONS: See information in Section 8 (Exposure Controls – Personal Protection) and Section 13 (Disposal Considerations) for additional information.
7. HANDLING and USE

PRECAUTIONS FOR SAFE HANDLING: If during the use of this product, dusts, particulates or fumes are generated, avoid breathing, or skin or eye contact. Avoid touching heated product. Wash hands thoroughly after handling this product or containers of this product.

CONDITIONS FOR SAFE STORAGE: Store this product in a cool, dry location, away from sources of intense heat. Store away from incompatible materials (see Section 10, Stability and Reactivity), water, heat and flame.

SPECIFIC END USE(S): This product is for use as a sealant. Follow all industry standards for use of this product.

PROTECTIVE PRACTICES DURING MAINTENANCE OF CONTAMINATED EQUIPMENT: Follow practices indicated in Section 6 (Accidental Release Measures). Make certain that application equipment is locked and tagged-out safely, if necessary. Collect all rinsates and dispose of according to applicable Federal, State, and local procedures.

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

EXPOSURE LIMITS/CONTROL PARAMETERS:

Ventilation and Engineering Controls: Use with adequate ventilation to ensure exposure levels are maintained below the limits provided below (if applicable). Exhaust directly to the outside, taking necessary precautions for environmental protection.

Workplace Exposure Limits/Control Parameters: The following exposure limits are not expected to apply to the product, due to its solid form. Limits are given in the event of involvement in a fire or other situation in which fumes, vapors or aerosols are produced.

<table>
<thead>
<tr>
<th>CHEMICAL NAME</th>
<th>CAS #</th>
<th>EXPOSURE LIMITS IN AIR</th>
<th>ACGIH-TLVs</th>
<th>OSHA-PELs</th>
<th>NIOSH-RELs</th>
<th>NIOSH</th>
<th>OTHER</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
<td>TWA mg/m³</td>
<td>STEL mg/m³</td>
</tr>
<tr>
<td>1,3-Butadiene Homopolymer Hydrox Terminated</td>
<td>69102-90-5</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
<td>NE</td>
</tr>
<tr>
<td>Graphite</td>
<td>7782-42-5</td>
<td>2 (resp. fract.)</td>
<td>NE</td>
<td>15 mppcf (based on impinger samples counted by light field techniques)</td>
<td>2.5 (resp. dust)</td>
<td>NE</td>
<td>DFG MAK: WA = 1.5 (respirable fraction); 4 (inhalable fraction) DFG MAK Pregnancy Risk Classification: C</td>
</tr>
<tr>
<td>Methylene Bisphenyl Isocyanate</td>
<td>101-68-8</td>
<td>0.051</td>
<td>NE</td>
<td>0.2 (ceiling)</td>
<td>0.05</td>
<td>0.2 (ceiling) 10 min.</td>
<td>75 ppm</td>
</tr>
<tr>
<td>Soybean Oil Exposure limits given are for vegetable oil Mist</td>
<td>8001-22-7</td>
<td>NE</td>
<td>NE</td>
<td>15 (total dust), 5 (resp. fract.)</td>
<td>NE</td>
<td>10 (total dust), 5 (resp. fract.)</td>
<td>NE</td>
</tr>
</tbody>
</table>

NE = Not Established. See Section 16 for Definitions of Other Terms Used.

International Occupational Exposure Limits: Currently, the following additional exposure limit values have been established by various countries for the components of this mixture. More current limits may be available; individual countries should be consulted to determine if newer limits are available. As with limits given previously in this Section, these limits are not necessarily applicable due to the form of the product.

**GRAPHITE:**
- Belgium: TWA = 2 mg/m³ (respirable), MAR 2002
- Denmark: TWA = 2.5 mg/m³ (respirable), MAY 2011
- Finland: TWA = 2 mg/m³, NOV 2011
- France: VME = 2 mg/m³, FEB 2006
- Germany: MAK = 1.5 mg/m³, resp. 2011
- Germany: MAK = 4 mg/m³, inh, 2011
- Iceland: TWA = 2.5 mg/m³ (respirable), NOV 2011
- Japan: CEL = 0.5 mg/m³ (respirable), 2 mg/m³ (total), MAY 2012
- Korea: TWA = 10 mg/m³, 2006
- Korea: TWA = 2.5 mg/m³, 2006
- Mexico: TWA = 2 mg/m³, 2004
- The Netherlands: MAC-TG = 2 mg/m³, 2003
- New Zealand: TWA = 3 mg/m³ (respirable dust), JAN 2002

**GRAPHITE (continued):**
- Peru: TWA = 2 mg/m³, JUL 2005
- Sweden: TWA = 0.21/cc, JUN 2005
- Sweden: TWA = 5 mg/m³, JUN 2005
- Switzerland: MAK-W = 5 mg/m³, inh, JAN 2011
- Switzerland: MAK-W = 2.5 mg/m³, resp. JAN 2011
- In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnam check ACGIH TLV
- Australia: TWA = 0.02 mg(NCO)/m³, STEL 0.07 mg(NCO)/m³, JUL 2008
- Austria: MAK-TMW = 0.005 ppm (0.05 mg/m³); KZW = 0.01 ppm (0.1 mg/m³), JAN 2007

**METHYLENE BISPHENOL ISOXYANATE:**
- Belgium: TWA = 0.005 ppm (0.052 mg/m³), MAR 2002
- Denmark: TWA = 0.005 ppm (0.05 mg/m³), OCT 2002
- France: VME = 0.01 ppm (0.1 mg/m³), VLE = 0.02 ppm (0.2 mg/m³), FEB 2006
8. EXPOSURE CONTROLS - PERSONAL PROTECTION (Continued)

METHYLENE BISPHENOL ISOCYANATE (continued):

Germany: MAK = 0.05 mg/m³, inhala. 2011
Hungary: TWA = 0.05 mg/m³, STEL = 0.05 mg/m³, SEP 2000
Iceland: TWA = 0.005 ppm (0.05 mg/m³), STEL = 0.01 ppm (0.1 mg/m³), sen, NOV 2011
Japan: OEL = 0.05 mg/m³, A1 sen, MAY 2012
Korea: TWA = 0.005 ppm (0.055 mg/m³), 2006
Mexico: TWA = 0.005 ppm (0.051 mg/m³), 2004
The Netherlands: MAC-TGG = 0.05 mg/m³, 2003
New Zealand: TWA = 0.02 mg(NCO)/m³, STEL = 0.07 mg(NCO)/m³, sen, JAN 2002

METHYLENE BISPHENOL ISOCYANATE (continued):

Peru: TWA = 0.005 ppm (0.001 mg/m³), JUL 2005
The Philippines: TWA = 0.02 ppm (0.2 mg/m³), JAN 1993
Poland: MAC(TWA) = 0.05 mg/m³, MAC(C) = 0.2 mg/m³, JAN 1999
Russia: STEL = 0.5 mg/m³, Skin, JUN 2003
Sweden: TWA = 0.002 ppm (0.03 mg/m³), CL = 0.005 ppm (0.05 mg/m³), Sen, JUN 2005
Switzerland: CL = 0.02 mg(NCO)/m³, skin, sen, JAN 2011
Thailand: TWA = 0.02 ppm (0.2 mg/m³), JAN 1993
In Argentina, Bulgaria, Colombia, Jordan, Singapore, Vietnamese check ACGIH TLV


Respiratory Protection: Due to the form of this product, respiratory protection in not normally required. If heated and fumes are generated, maintain airborne contaminant concentrations below exposure limits listed above. For materials without listed exposure limits, minimize respiratory exposure. If necessary, use only respiratory protection authorized under appropriate regulations. Oxygen levels below 19.5% are considered IDLH by U.S. OSHA. In such atmospheres, use of a full-facepiece pressure/demand SCBA or a full facepiece, supplied air respirator with auxiliary self-contained air supply is required under U.S. OSHA's Respiratory Protection Standard (1910.134-1998).

Eye Protection: Wear splash goggles or safety glasses as appropriate for the task.

Hand Protection: Wash hands and forearms before putting on and after removing gloves. During manufacture or other similar operations, wear the appropriate hand protection for the process. Use double gloves for spill response, as stated in Section 6 (Accidental Release Measures) of this SDS. Because all gloves are to some extent permeable and their permeability increases with time, they should be changed regularly (hourly is preferable) or immediately if torn or punctured. If necessary refer to appropriate regulations.

Skin Protection: Use appropriate protective clothing for the task (e.g., coveralls, etc.). If necessary, refer to the U.S. OSHA Technical Manual (Section VII: Personal Protective Equipment) or other appropriate regulations. Full-body chemical protective clothing is recommended for emergency response procedures. If a hazard of injury to the feet exists due to falling objects, rolling objects, where objects may pierce the soles of the feet or where employee's feet may be exposed to electrical hazards, use foot protection, as described in U.S. OSHA and Canadian Standards.

9. PHYSICAL and CHEMICAL PROPERTIES

FORM: Rubberized solid.
MOLECULAR FORMULA: Mixture.
COLOR: Red.
MOLECULAR WEIGHT: Mixture. ODOR:
Not available.
ODOR THRESHOLD: Not available.
FLAMMABLE LIMITS (in air by volume, %): Not available.
OXIDIZING PROPERTIES: Not applicable.
DECOMPOSITION TEMPERATURE: Not available.
PERCENT VOLATILE: 0
AUTOIGNITION TEMPERATURE: Not available.
FLASH POINT: Not available.
FREEZING/MELTING POINT: Not available.
BOILING POINT: Not applicable.
VAPOR PRESSURE: Not applicable.
SPECIFIC GRAVITY (water = 1): Not applicable.
VAPOR DENSITY (air = 1): Not applicable.
CARB VOC: Not applicable.
EVAPORATION RATE (n-BuAc = 1): Not applicable.
SOLUBILITY IN WATER: Insoluble.
SOLUBILITY IN SOLVENTS: Not applicable.
SOLUBILITY IN WATER/OIL DISTRIBUTION: Not established.
PH: Not applicable.
HOW TO DETECT THIS SUBSTANCE (warning properties in event of accidental release): The appearance may be characteristic to distinguish a release of this product.

10. STABILITY and REACTIVITY

CHEMICAL STABILITY: This product is stable when properly stored at normal temperature (see Section 7, Handling and Storage).

DECOMPOSITION PRODUCTS: Combustion: If exposed to extremely high temperatures, thermal decomposition may generate irritating fumes and toxic gases (e.g., carbon and nitrogen oxides, phthalates, ammonia, formaldehyde, hydrogen cyanide, nitriles, isocyanates, nitrosamines, hydrogen chloride, and acrylic monomers). Hydrolysis: None known.

MATERIALS WITH WHICH SUBSTANCE IS INCOMPATIBLE: This product is incompatible with strong oxidizers.

POSSIBILITY OF HAZARDOUS POLYMERIZATION OR REACTION: Will not occur.

CONDITIONS TO AVOID: Avoid exposure to or contact with extreme temperatures and incompatible chemicals.

11. TOXICOLOGICAL INFORMATION

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE: The health hazard information provided below is pertinent to employees using this product in an occupational setting. The following paragraphs describe the symptoms of exposure by route of exposure.

STI Marine Firestop Collars

EFFECTIVE DATE: JANUARY 27, 2017

PAGE 4 OF 9
11. TOXICOLOGICAL INFORMATION (Continued)

SYMPTOMS OF EXPOSURE BY ROUTE OF EXPOSURE (continued):

Inhalation: If this product is heated, inhalation of fumes or vapors may cause irritation of the nose, throat, and lungs and cause coughing. Due to the isocyanate component, inhalation of fumes may cause respiratory sensitization and allergic reaction.

Contact with Skin or Eyes: Due to the form of the product, contact with the eyes is unlikely, unless heating causes fumes. Fumes may cause tearing and stinging to the eyes. Although this product contains a skin sensitizer, due to form of the product, skin sensitization is not likely.

Skin Absorption: Due to form of product, skin absorption is not a likely route of exposure.

Ingestion: Ingestion is not a likely route of exposure, due to the form of the product.

Injection: Injection is not likely, due to the form of the product.

HEALTH EFFECTS OR RISKS FROM EXPOSURE: An Explanation in Lay Terms. Exposure to this product may cause the following health effects:

Acute: Inhalation of fumes or vapors may cause irritation of respiratory system and eyes.

Chronic: Inhalation of fumes may cause respiratory sensitization.

TARGET ORGANS: Acute: Skin, eyes, respiratory system. Chronic: Respiratory system.

TOXICITY DATA: No toxicity data are presented for components due to product form.

CARCINOGENICITY: Due to the physical nature of this product, carcinogenicity is not a hazard.

SENSITIZATION OF PRODUCT: Due to the isocyanate component, inhalation of fumes may cause respiratory sensitization and allergic reaction. Symptoms may include difficulty breathing, coughing and wheezing.

IRRITATION OF PRODUCT: Inhalation of fumes or vapors may cause respiratory irritation and eye irritation.

REPRODUCTIVE TOXICITY INFORMATION: Components of this product have no reported mutagenic, embryotoxic or teratogenic toxicity.

ACGIH BIOLOGICAL EXPOSURE INDICES (BEIs): Currently, there are no ACGIH Biological Exposure Indices (BEIs) determined for components.

DEGREE OF EFFECT TO THE HEALTH OF THE POLLUTING AGENT OF ENVIRONMENT OF WORK (per Mexican NOM-010 STPS-1999): 0

12. ECOLOGICAL INFORMATION

ALL WORK PRACTICES MUST BE AIMED AT ELIMINATING ENVIRONMENTAL CONTAMINATION.

MOBILITY: As an article, this product will not be mobile in soil.

PERSISTENCE AND BIODEGRADABILITY: No specific information is available regarding persistence and biodegradability.

BIO-ACCUMULATION POTENTIAL: This product has not been tested for bio-accumulation potential.

ECOTOXICITY: This product has not been tested for aquatic or animal toxicity. All releases to terrestrial, atmospheric and aquatic environments should be avoided.

OTHER ADVERSE EFFECTS: The components of this product are not listed as having ozone depletion potential.

RESULTS OF PBT and vPvB ASSESSMENT: The Methylene Biphenyl Isocyanate component is a Suspected PBT/vPvB compound. PBT and vPvB assessments are part of the chemical safety report required for some substances in European Union Regulation (EC) 1907/2006, Article 14.

ENVIRONMENTAL EXPOSURE CONTROLS: Controls should be engineered to prevent release to the environment, including procedures to prevent spills, atmospheric release and release to waterways.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: It is the responsibility of the generator to determine at the time of disposal whether the product meets the criteria of a hazardous waste per regulations of the area in which the waste is generated and/or disposed of. Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Shipments of wastes must be done with appropriately permitted and registered transporters.

DISPOSAL CONTAINERS: Waste materials must be placed in and shipped in appropriate 5-gallon or 55-gallon poly or metal waste pails or drums. Permeable cardboard containers are not appropriate and should not be used. Ensure that any required marking or labeling of the containers be done to all applicable regulations.

PRECAUTIONS TO BE FOLLOWED DURING WASTE HANDLING: Wear proper protective equipment when handling waste materials.

U.S. EPA WASTE NUMBER: Not applicable.

EWC WASTE CODES: 16 01 21: Hazardous components other than those mentioned in 16 01 07 to 16 01 11 and 16 01 13 and 16 01 14.
14. TRANSPORTATION INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION REGULATIONS: This product is not classified as dangerous goods, per U.S. DOT regulations, under 49 CFR 172.101.

TRANSPORT CANADA TRANSPORTATION OF DANGEROUS GOODS REGULATIONS: This product is not classified as Dangerous Goods, per regulations of Transport Canada.

INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA): This product is not classified as dangerous goods under rules of IATA.

INTERNATIONAL MARITIME ORGANIZATION (IMO) DESIGNATION: This product is not classified as Dangerous Goods by the International Maritime Organization.

EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY ROAD (ADR): This product is not classified by the United Nations Economic Commission for Europe to be dangerous goods.

OFFICIAL MEXICAN STANDARD; REGULATION FOR THE TRANSPORT OF DANGEROUS GOODS AND RESIDUES: This product is not classified as Dangerous Goods, per transport regulations of Mexico.

SINGAPORE STANDARD 286: PART A: This product has no requirements under the Specification for Caution Labeling for Hazardous Substances, Part 4: Marking of Packages, Containers and Vehicles, as it does not meet the criteria for any hazard class under this regulation.

TRANSPORT IN BULK ACCORDING TO THE IBC CODE: See the information under the individual jurisdiction listings for IBC information.

ENVIRONMENTAL HAZARDS: This material does not meet the criteria of environmentally hazardous according to the criteria of the UN Model Regulations (as reflected in the IMDG Code, ADR, RID, and ADN) and is not listed in Annex III under MARPOL 73/78.

15. REGULATORY INFORMATION

UNITED STATES REGULATIONS:

U.S. SARA Reporting Requirements: As an article, this product is not subject to the reporting requirements of Sections 302, 304, and 313 of Title III of the Superfund Amendments and Reauthorization Act.

U.S. SARA Hazard Categories (Section 311/312, 40 CFR 370-21): ACUTE: No; CHRONIC: No; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No

U.S. SARA Threshold Planning Quantity (TPQ): As an article, this product is not subject to Threshold Planning Quantities, per 40 CFR 370.20.

U.S. CERCLA Reportable Quantity (RO): Not applicable.

U.S. TSCA Inventory Status: Components of this product are listed on the TSCA Inventory.

California Safe Drinking Water and Toxic Enforcement Act (Proposition 65): No component is on the California Proposition 65 lists.

CANADIAN REGULATIONS:

Canadian DSL/NDSL Inventory Status: Components are on the DSL or NDSL Inventories.

Canadian Environmental Protection Act (CEPA) Priorities Substances Lists: Components are not on the CEPA Priorities Substances Lists.

Canadian WHMIS Classification and Symbols: As an article, this product is not subject the Controlled Product Regulations.

EUROPEAN REGULATIONS:

Safety, Health, and Environmental Regulations/Legislation Specific for the Product: Under Annex XVII of REACH, Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles, Entry 56, due to the Methylene Bisphenyl Isocyanate component, the following restrictions to the product apply in the EU:

1. Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0.1% by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:
   (a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC (§);
   (b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:
      ‘Persons already sensitised to isocyanates may develop allergic reactions when using this product’;
      ‘Persons suffering from asthma, eczema or skin problems should avoid contact’;
   This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.’

2. By way of derogation, paragraph 1(a) shall not apply to hot melt adhesives.


REACH List of Pre-Registered Substances: Graphite: Registered; Methylene Bisphenyl Isocyanate: Registered; Soybean Oil: Pre-registered; 1,3-Butadiene Homopolymer, Hydroxy Terminated: No information; Proprietary Red Pigment: No information.

CHINESE REGULATIONS:

Chinese Inventory of Existing Chemical Substances Status: As an article, this product is not subjected to requirements under the Chinese Inventory of Existing Chemical Substances (IECSC).

JAPANESE REGULATIONS:

Japanese ENCS: As an article, this product is not subjected to requirements under ENCS Inventory.

Japanese Ministry of Economy, Trade, and Industry (METI) Status: As an article, this product is not subjected to requirements under the Japanese METI.

Poisonous and Deleterious Substances Control Law: As an article, this product is not subjected to requirements under the Poisonous and Deleterious Substances Control Law.

KOREAN REGULATIONS:

Korean Existing Chemicals List (ECL) Status: As an article, this product is not subjected to requirements under the Korean ECL Inventory.
MEXICAN REGULATIONS:
Mexican Workplace Regulations (NOM-018-STPS-2000): This product is not classified as hazardous.

SINGAPORE REGULATIONS:
List of Controlled Hazardous Substances: As an article, this product is not subject to requirements under the Singapore List of Controlled Substances.
Code of Practice on Pollution Control Requirements: As an article, this product is not subject to requirements under the Singapore Code of Practice on Pollution Control.

TAIWANESE REGULATIONS:
Taiwan Existing Chemical Substances Inventory Status: As an article, this product is not subject to requirements under the Taiwan Existing Chemicals List.

16. OTHER INFORMATION

LABELING (Precautionary Statements) ANSI LABELING (Z129.1):
CAUTION: FUMES GENERATED BY HEATING OR MAY CAUSE MILD IRRITATION BY INHALATION AND EYE CONTACT. INHALATION OF FUMES MAY CAUSE RESPIRATORY SENSITIZATION IN PERSONS SUSCEPTIBLE TO ISOCYANATES. Avoid breathing fumes or vapors. Wear appropriate eye, hand, and body protection. Avoid exposure to elevated temperatures. FIRST-AID: In case of adverse effects after contact, flush skin or eyes with plenty of water for at least 20 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops or persists. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If swallowed, do not induce vomiting. Get medical attention.

IN CASE OF FIRE: Use water fog, foam, dry chemical, or CO₂. IN CASE OF SPILL: Pick-up waste product and place in suitable container. Place residual in appropriate container and seal. Dispose of in accordance with U.S. Federal, State, and local hazardous waste disposal regulations. Consult Safety Data Sheet for additional information.

GLOBAL HARMONIZATION, U.S. OSHA, JAPANESE JIS Z7253, EU REACH AND CLP REGULATION (EC) 1272/2008 AND THE TAIWANESE REGULATION OF LABELING AND COMMUNICATION OF DANGEROUS AND HARMFUL MATERIALS:
This product has been classified per GHS Standards under U.S., European, Japanese and Taiwanese regulations. This product is and article and is not required to be classified under any regulations.

KOREAN ISHA (Notice 2009-68) LABELING AND CLASSIFICATION: As an article, this product is not subject to ISHA Notice 2009-68.

REVISION DETAILS: January 27, 2017: Up-date SDS to include EU REACH and CLP 1272 compliance.

REFERENCES AND DATA SOURCES: Contact the supplier for information.

METHODS AND EVALUATING INFORMATION FOR THE PURPOSE OF CLASSIFICATION: Criteria of the GHS were used for classification.

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17. DEFINITION OF TERMS

A large number of abbreviations and acronyms appear on a SDS. Some of these, which are commonly used, include the following:

CAS #: This is the Chemical Abstract Service Number that uniquely identifies each constituent.

EXPOSURE LIMITS IN AIR:
CEILING LEVEL: The concentration that shall not be exceeded during any part of the working exposure.
DFG MAKs: Federal Republic of Germany Maximum Concentration Values in the workplace. Exposure limits are given as TWA (Time-weighted Average) or PEAK (short-term exposure) values.
DFG MAK Germ Cell Mutagen Categories: 1: Germ cell mutations that have been shown to increase the mutant frequency in the progeny of exposed humans. 2: Germ cell mutations that have been observed to increase the mutant frequency in the progeny of exposed mammals. 3A: Substances that have been shown to induce genetic damage in germ cells of humans or animals, which produce mutagenic effects in specific cells of mammals or in vivo and have not been observed to reach the germ cells in an active form. 3B: Substances that are suspected of being germ cell mutagens because of their genotoxic effects in mammalian somatic cell in vivo; in exceptional cases, substances that are known to induce in vivo damage, but that are clearly mutagenic in vitro and structurally related to known in vivo mutagens. 4: Not applicable (Category 4 carcinogenic substances are those with non-genotoxic mechanisms of action. By definition, germ cell mutagens are genotoxic. Therefore, a Category 4 for germ cell mutagens cannot apply. At some time in the future, it is conceivable that a Category 4 could be established for genotoxic substances with primary targets other than DNA [e.g. purely aneugenic substances] if research results make this seem possible.) 5: Germ cell mutagens, the potency of which is considered to be so low that, provided the MAK value is observed, their contribution to genetic risk for humans is expected not to be significant.

DFG MAK Categorization Risk Group Classification: Group A: A risk of damage to the developing embryo or fetus has been unequivocally demonstrated. Exposure of pregnant women can lead to damage of the developing organism, even when MAK and BAYT (Biological Tolerance Value for Working Men) values are observed. Group B: Currently available information indicates a risk of damage to the developing embryo or fetus must be considered to be probable. Damage to the developing organism cannot be excluded when pregnant women are exposed, even when MAK and BAYT values are observed. Group C: There is no reason to fear a risk of damage to the developing embryo or fetus when MAK and BAYT values are observed. Group D: Classification in one of the groups A-C is not yet possible because, although the data available may indicate a trend, they are not sufficient for the evaluation.

IDLH: Immediately Dangerous to Life and Health. This level represents a concentration from which one can escape within 30 minutes without suffering escape-preventing or permanent injury.

LOD: Limit of Detection.
NE: Not Established. When no exposure guidelines are established, an entry of NE is made for reference.
NIC: Notice of Intended Change.
NIOSH CEILING: The exposure that shall not be exceeded during any part of the working day. When instantaneous monitoring is not feasible, the ceiling shall be assumed as a 15-minute TWA exposure (unless otherwise specified) that shall not be exceeded at any time during a workday.

NIOSH RELs: NIOSH’s Recommended Exposure Limits.
PEL: OSHA Permissible Exposure Limits. This exposure value means exactly the same as a TWA, except that it is enforceable by OSHA. The OSHA Permissible Exposure Limits are based in the 1989 PELs and the June, 1993 Air Contaminants Rule (Federal Register: 58: 35338-35351 and 58: 40191). Both the current PELs and the vacated PELs are indicated. The phrase, “Vacated 1989 PEL” is placed next to the PEL that was vacated by Court Order.
SKIN: Used when there is a danger of cutaneous absorption.

EXPOSURE LIMITS IN AIR (continued):
STEL: Short Term Exposure Limit, usually a 15-minute time-weighted average (TWA) exposure that should not be exceeded at any time during a workday, even if the 8-hour TWA is within the TWA, PEL-TWA, or REL-TWA.
TLV: Threshold Limit Value. An airborne concentration of a substance that represents conditions under which it is generally believed that nearly all workers may be repeatedly exposed without adverse effect. The duration must be considered, including the 8-hour.
TWA: Time-Weighted Average. An airborne concentration for a conventional 8-hour (TLV, PEL) or up to a 10-hour (REL) workday and a 40-hour workweek.
WEEL: Workplace Environmental Exposure Limits from the AIHA.

HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATINGS: This rating system was developed by the National Paint and Coating Association and has been adopted by industry to identify the degree of chemical hazards.

HEALTH HAZARD: 0 Minimal Hazard: No significant health risk, irritation of skin or eyes not anticipated. 1 Slight Hazard: Essential with special caution (i.e. Draize 3 or Draize 4 or 2 out of 3). 2 Slight Hazard: More than slight irritation, no serious health effects anticipated. 3 Slight Hazard: Major injury likely unless prompt action is taken. 4 Severe Hazard: Major injury and present/possible death. 5 Hazard: Severe hazard, present/possible death.

INOXIDATION HAZARD: 0 Minimal Hazard: Materials that will not burn in air when exposed to a temperature of 815°C (1500°F) for a period of 5 minutes. 1 Slight Hazard: Materials that must be preheated to a temperature of 815°C (1500°F) before ignition can occur. Material requires considerable pre-heating, under all ambient temperature conditions before ignition and combustion can occur. This usually includes the following: Materials that will burn in air when exposed to a temperature of 815°C (1500°F) for a period of 5 minutes or less; Liquids, solids and semisolids having a flash point at or above 93.3°C (200°F) (i.e. OSHA Class III); and Most ordinary combustible materials (e.g. wood, paper, etc.).
**DEFINITION OF TERMS (Continued)**

**HAZARDOUS MATERIALS IDENTIFICATION SYSTEM HAZARD RATING: FLAMMABILITY HAZARD**

1. **Moderate Hazard:** Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur. Materials in this degree would not, under normal conditions, form hazardous atmospheres in air, but under high ambient temperatures or in the presence of a flammable material, can produce hazardous atmospheres with air. This usually includes the following: Liquids having a flash point at or above 38°C (100°F) and those liquids having a flash point at or above 28°C (82°F) and those liquids having a flash point at or above 23°C (73°F) and below 37°C (100°F). Any liquid or gaseous material that is hazardous to life or health at an LC50 greater than 40 mg/kg but less than or equal to 500 mg/kg. 2. **Severe Hazard:** Materials that either: ignites when exposed to air at temperatures of 54.4°C (130°F) or below. Physical Properties: 1. Water Reactivity: Materials that do not react with water. Organic Peroxides: Materials that are normally stable, even under fire conditions, and will not react with water. Explosives: Substances that are Non-Explosive. Compounds: Gas; Rating: Pyrophoric. Pyrophoric: Owing to: Oxidizers; 0 rating. Unstable Reactives: Substances that will polymerize, decompose, condense, or self-react. 1. Water Reactivity: Materials that change or decompose upon exposure to moisture. Organic Peroxides: Materials that are normally stable, but can become unstable under certain conditions, may react with air, and may release energy violently. Explosives: Division 1.5 & 1.6 explosives. Substances that are very insensitive to thermal decomposition. Materials containing a weight of less than 0.1% of爆点的 oxygen by weight. Solids; any material that in either concentration tested, exhibits a mean burning time less than or equal to the mean burning time of a 2.3 potassium bromate/cellulose mixture and the criteria for Packing Group I and II are not met. Liquids; any material that exhibits a mean pressure rise rate that is less than or equal to the pressure rise rate of a 1.1 nitric acid (65%)/cellulose mixture and the criteria for Packing Group I and II are not met. Any liquid or gaseous material that is hazardous to life or health at an LC50 greater than 40 mg/kg but less than or equal to 500 mg/kg. 2. Reactions: Substances that may polymerize, decompose, condense, or self-react at ambient temperature and moisture, and pressure, and that have a potential or moderate risk to cause significant heat generation or explosion. 3. Water Reactivity: Materials that react explosively with water. Organic Peroxides: Materials that are ready capable of detonation or explosive decomposition at normal temperature and pressure. Explosives: Division 1.1 & 1.2 explosives. Substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. Compressed Gases: No Rating. Pyrophoric: Add to the definition of explosiveness. 1. Water Reactivity: Materials that react explosively with water. Organic Peroxides: Materials that are ready capable of detonation or explosive decomposition at normal temperature and pressure. Explosives: Division 1.1 & 1.2 explosives. Substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. Compressed Gases: No Rating. Pyrophoric: Add to the definition of explosiveness. 1. Water Reactivity: Materials that react explosively with water. Organic Peroxides: Materials that are ready capable of detonation or explosive decomposition at normal temperature and pressure. Explosives: Division 1.1 & 1.2 explosives. Substances that have a mass explosion hazard or have a projection hazard. A mass explosion is one that affects almost the entire load instantaneously. Compressed Gases: No Rating.
DEFINITION OF TERMS (Continued)

FLAMMABILITY LIMITS IN AIR:
Much of the information related to fire and explosion is derived from the National Fire Protection Association (NFPA).  Flash Point: Minimum temperature at which a liquid gives off sufficient vapor to form an ignitable mixture with air near the surface of the liquid or within the test vessel used.  Autoignition Temperature: Minimum temperature of a solid, liquid, or gas required to initiate or cause self-sustained combustion in air with no other source of ignition.  LEL: Lowest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.  UEL: Highest concentration of a flammable vapor or gas/air mixture that will ignite and burn with a flame.

TOXICOLOGICAL INFORMATION:
Human and Animal Toxicology: Possible health hazards as derived from human data, animal studies, or from the results of studies with similar compounds are presented.  LD₅₀: Lethal Dose (solids & liquids) that kills 50% of the exposed animals.  LC₅₀: Lethal Concentration (gases) that kills 50% of the exposed animals.  ppm: Concentration expressed in parts of material per million parts of air or water.  mg/L: Concentration expressed in weight of substance per volume of air.  mg/kg: Quantity of material, by weight, administered to a test subject, based on their body weight in kg.  TD₅₀: Lowest dose to cause a symptom.  TC₅₀: Lowest concentration to cause a symptom.  TD₈₀, LD₈₀, and Lₐ₀, or TC₈₀, LC₈₀: Lowest dose (or concentration) to cause lethal or toxic effects.  Cancer Information: IIARC: International Agency for Research on Cancer.  NTP: National Toxicology Program.  RTECS: Registry of Toxic Effects of Chemical Substances.  IARC and NTP rate chemicals on a scale of decreasing potential to cause human cancer with rankings from 1 to 4.  Subrankings (2A, 2B, etc.) are also used.  Other Information: BDL: AGIHB Biological Exposure Indices, represent the levels of determinants which are most likely to be observed in specimens collected from a healthy worker who has been exposed to chemicals to the same extent as a worker with inhalation exposure to the TLV.

ECOLOGICAL INFORMATION:
EC: Effect concentration in water.  BCF: Bioconcentration Factor, which is used to determine if a substance will concentrate in life forms that consume contaminated plant or animal matter.  TLM: Median threshold limit.  log Kow or log Koc: Coefficient of Oil/Water Distribution is used to assess a substance's behavior in the environment.

REGULATORY INFORMATION:
U.S.:
EPA: U.S. Environmental Protection Agency.  AGIHB: American Conference of Governmental Industrial Hygienists, a professional association that establishes exposure limits.  OSHA: U.S. Occupational Safety and Health Administration.  NIOSH: National Institute of Occupational Safety and Health, which is the research arm of OSHA.  DOT: U.S. Department of Transportation.  SARA: Superfund Amendments and Reauthorization Act.  TSCA: U.S. Toxic Substance Control Act.  CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act.  Marine Pollutant status according to the DOT; CERCLA or Superfund; and various state regulations. This section also includes information on the precautionary warnings that appear on the material's package label.

CANADA:
DSUNDIS: Canadian Domestic/Non-Domestic Substances List.

EUROPEAN and INTERNATIONAL:
The DFG: This is the Federal Republic of Germany's Occupation Health Agency, similar to the U.S. OSHA. EU is the European Union (formerly known as the EEC, European Economic Community).  ENECS: This is the European Inventory of Non-Existing Chemical Substances.  The ARD is the European Agreement Concerning the International Carriage of Dangerous Goods by Road and the RID are the International Regulations Concerning the Carriage of Dangerous Goods by Rail.  ACS is the Australian Inventory of Chemical Substances.  METI is the Japanese Ministry of Economy, Trade, and Industry.