



2018 SDS for NON-LEAD

Section 1: Identification of the substance/mixture and of the company

| | |
|-----------------------------------|--|
| <u>Product Identifier:</u> | NL-E |
| <u>Intended Use:</u> | Production of X-ray apparel and protective accessories |
| <u>Chemical Family:</u> | Filled Polymer Composition |

Section 2 – Hazards Identification

POLYOLEFIN ELASTOMER

INGESTION The oral LD-50 in rats using one type of ethylene copolymer is in excess of 1000 mg/kg of body weight. Two week metabolic tests with dogs and rats showed no significant amount of polymer was retained by the animals. Two types of ethylene copolymer were fed to rats for 90 days at the 5 and 10% level in the diet. No gross pathological changes were found. Ethylene copolymer resins have low toxicity

SKIN No data are available. However, based on experience with handling these polymers, no unusual dermatitis hazard is expected from routine handling. Molten polymer contacting the skin will cause thermal burns.

EYE Mechanical irritation

INHALATION Polymer/compound are not respirable as marketed. At processing temperatures above 204 C, fumes irritating to the eyes, nose, and throat may be produced. Exposure may result in redness, tearing and itching in the eyes together with soreness in the nose and throat with coughing.

CHRONIC EFFECTS No compound related effects were seen at the 50 ppm level.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: None known

None of the compounds present in the polymer at concentrations > 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen

ANTIMONY

INGESTION Single ingestion exposure in animals resulted in no weight gain for many days after exposure. Repeated exposure of animals, by ingestion, caused reduced weight gain, and alterations of blood parameters. Reports are vague on the nature of the antimony exposures, but repeated and long term exposures caused injury to heart muscles. In ACUTE toxicity testing in animals antimony compounds were of slight toxicity by ingestion. ingestion may cause nausea, vomiting and severe diarrhea. Inflammation of the kidneys and liver, with bleeding, may occur.

No animal test reports are available to define carcinogenic, mutagenic developmental or reproductive hazards.

SKIN / EYE In powder form, it can be a skin, eye nose and throat irritant. It can cause allergic skin rashes. It is untested for animal sensitization.

INHALATION Compound is not respirable as marketed in pellet or sheet form, unless ground. Prolonged or chronic exposure to the antimony powder fume or dust may cause skin postules, bleeding gums, conjunctivitis, laryngitis, headache, weight loss, anemia, pain, or tightness in the chest, shortness of breath, metallic taste and decreased sense of smell.

CHRONIC EFFECTS Studies involving antimony and its compounds have shown a casual link between antimony exposure and increased levels of throat and lung cancer among workers and animals. While it appears that antimony compounds may be more highly toxic, this material should be treated as a suspected carcinogen . Studies involving animals and humans have shown that chronic high exposure may lead to teratogenic effects.

ANIMAL DATA:

| | | |
|----------------------|---|---|
| Inhalation LC50 | : | No information found |
| Skin absorption LD50 | : | No information found |
| Oral LD50 | : | 7000 mg/kg in rats (very low toxicity by ingestion) |

No animal test reports are available to define carcinogenic, mutagenic, developmental, or reproductive hazards

HYDROCARBON OIL

INGESTION Hydrocarbon lubricating oils have low to moderate oral toxicity, with with overexposure. Vomiting due to irritation of the digestive tract is common. Keep airway clear. This product contains no ingredients listed by IARC, NTP and ACGIH as carcinogens. Oral LD50 : > 5,000 mg/kg in rats.

SKIN / EYE May cause eye irritation. Prolonged or repeated skin exposure to liquid may cause dry skin, irritation and acne

INHALATION Not sufficiently volatile to present a hazard from vapor inhalation under normal use. High temperatures may cause symptoms of respiratory tract irritation.

TUNGSTEN

INGESTION No particular hazard identified. Not listed as a carcinogen by IARC, NTP or OSHA. Not reported as mutagen or with genetic effects. An experimental teratogen .

SKIN / EYE In powder form, dust may irritate the skin and the eyes, with possible corneal abrasion.

INHALATION Compound is not respirable as marketed. In powder form breathing dust may irritate the respiratory tract and cause coughing . Extreme or repeated exposure may cause lung damage.

CHRONIC EFFECTS: None reported

ACUTE TOXICITY Animal data. Oral-rat TDLo: 1210 ug/kg (35W pre)
TER eye-rabbit 500 mg/24H MLD

Section 3 – Composition / Information on Ingredients

| Name | CAS NUMBER |
|-----------------------|-------------------|
| Polyolfein Elastomer | 26221-73-8 |
| Antimony* | 7440-36-0 |
| Tungsten | 7440-33-7 |
| Hydrocarbon Oil | 64742-01-4 |
| Oleamide (slip agent) | 301-02-0 |
| Antioxidant | 6683-19-8 |
| Antioxidant | 31570-04-4 |

*Regulated as a Toxic chemical under Section 313 of Title III of the SARA Act of 1986 and 40 CFR part 372

The specific chemical identity and/or exact percentage of this item has been withheld as a trade secret. Antimony and tungsten powder bound in a thermoplastic polymer does not present a toxicity hazard unless the compound is ground to a powder and inhaled.

WHMIS controlled product, Class D2A

Section 4 – First Aid Measures

INHALATION

No specific intervention is indicated as the compound is not likely to be hazardous by inhalation. Consult a physician if necessary. If exposed to fumes from overheating or combustion, move to fresh air.

SKIN CONTACT

The compound is not likely to be hazardous by skin contact, but cleansing the skin after use is advisable. If molten polymer gets on skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical treatment for thermal burn. In case of contact, wash skin with soap and water.

EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

INGESTION

No specific intervention is indicated as compound is not likely to be ingested, nor to be hazardous by ingestion. Consult a physician if necessary.

Section 5 – Fire Fighting Measures

FLASH POINT Not available

FIRE AND EXPLOSION HAZARDS

Solid polymer compound can be combusted only with difficulty.

Hazardous gases/vapors produced in fire are: carbon monoxide, carbon dioxide, antimony

EXTINGUISHING MEDIA

Water. Foam. Dry Chemical. CO2

SPECIAL FIRE FIGHTING INSTRUCTIONS

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus.

Section 7 – Shipping and Storage

Storage Procedures – Store in cool place. Keep containers closed.

Shipping: not regulated.

Section 8 – Exposure Controls / Personal Protection

TB-E ETHYLENE COPOLYMER RESIN

| | | |
|-------------|---|----------------|
| TLV (ACGIH) | : | Not Applicable |
| PEL(OSHA) | : | Not applicable |

OTHER APPLICABLE EXPOSURE LIMITS

ANTIMONY POWDER

| | | |
|-------------|---|---------------------------------------|
| TLV (ACGIH) | : | 0.5mg/cu m, as Sb |
| PEL (OSHA) | : | 0.5 mg/ cu m – 8 hr. TWA – Total dust |

TUNGSTEN

| | | |
|-------------|---|--|
| TLV (ACGIH) | : | 5mg/cu m, TWA, as insoluble W 10mg/cu m STEL as insoluble W |
| PEL (OSHA) | : | 5mg/cu m, as W, NIOSH TWA 10 mg/ cu m total dust (PNOR) |

HYDROCARBON OIL

| | | |
|-------------|---|-------------|
| TLV (ACGIH) | : | 10 mg/ cu m |
| PEL(OSHA) | : | 5 mg/ cu m |

SAFETY PRECAUTIONS

Avoid breathing dust during compounding or if compound ground/powdered. See FIRST AID and PROTECTION INFORMATION sections

GENERALLY APPLICABLE CONTROL MEASURES AND PRECAUTIONS

Use only with adequate ventilation. Avoid dust generation

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when possibility exists for eye and face contact with molten material.

RESPIRATORS

A NIOSH/MSHA approved air purifying respirator with an organic vapor cartridge with dust/mist

filter may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, or exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. During grinding, sanding or sawing operations use a NIOSH/MSHA approved air purifying respirator with dust/mist cartridge or canister if airborne particulate concentrations are expected to exceed permissible exposure levels.

PROTECTIVE CLOTHING

If there is potential contact with hot/molten polymer, wear heat resistant clothing, gloves and footwear. Wear leather or cotton gloves when sawing routing, drilling, or sanding.

Section 9 – Physical & Chemical Properties

| | |
|------------------|--------------------------------|
| Melting Point | : 79 C |
| % Volatiles | : Negligible |
| Solubility | : Negligible |
| : None | |
| Form | : Solid Pellets or Sheet/Rolls |
| Specific Gravity | : 3.11 |

Section 10 – Chemical Stability & Reactivity Information

| | |
|---------------|--|
| Instability | Stable at normal temperatures and storage conditions |
| Decomposition | Decomposes with heat |

AQUATIC TOXICITY

Negligible solubility.

SPILL, LEAK OR RELEASE

Use appropriate personal protective equipment during clean up. Recover undamaged and minimally contaminated material for reuse or reclamation. Shovel or sweep up

WASTE DISPOSAL

Preferred options for disposal are (1) recycling, (2) landfill- (no components listed under EPA TLCP RCRA), (3) incineration with energy recovery. Treatment, storage, transportation and disposal must be in accordance with applicable federal, state and local regulations

ADDITIONAL INFORMATION:

NA = Not applicable
NE = Not Established

STATE RIGHT-TO-KNOW LAWS

No substance on the state hazardous substances list, for the states Indicated below, are used in the manufacture of the products on this MSDS sheet, with the exceptions listed

PENNSYLVANIA

| | |
|--|-----------------|
| Hazardous substances at a concentration of >1% | Antimony |
| Special Hazardous substances >0.01% | Hydrocarbon oil |
| Non-hazardous listed if > 3% | see page 1 |

CALIFORNIA

| | |
|---|-----------------|
| WARNING | |
| Substances known to state of CA to cause cancer | Hydrocarbon oil |

DISCLAIMER

Information presented herein has been compiled from information provided to us by our suppliers and other sources considered to be dependable and is accurate to the best of our knowledge and belief but is not guaranteed to be so.

Provided by: M Lilley