EMERGENCY ELASTOMERIC LEAK REPAIR

HEALTH CANADA	PROTECTIVE CLOTHING	TRANSPORT OF DANGEROUS GOODS
		 **ADHESIVE** **Class 3** **UN 1133** **P.G.: III**

SECTION I: IDENTIFICATION

Use: This product complements bituminous waterproofing membranes and is used as jointing mastics, caulking materials and joint fillers. It is compatible with bituminous materials and ensures good waterproofing.

Distributor:
Tucson Rubberized Coatings
6351 S. Tucson Blvd
Tucson, AZ 85706
Tel.: (520) 293-7000

In case of emergency:

SOPREMA (8:00am to 5:00pm): 1 800 567-1492 **CHEMTREC (USA) (24h.): 1 800 424-9300**

SECTION II: HAZARD(S) IDENTIFICATION

DANGER

Flammable liquid and vapour. May be fatal if swallowed and enters airways. Harmful if swallowed. May cause respiratory irritation or drowsiness or dizziness. Causes skin irritation. Causes eye irritation. Suspected of damaging fertility or the unborn child. May cause damage to the central nervous system (CNS) through prolonged or repeated exposure if inhaled.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, sparks, open flames and hot surfaces. No smoking. Use explosion proof electrical equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not eat or drink when using this product. Avoid breathing vapours. Use only outdoors or in a well-ventilated area. Wash hands thoroughly after handling. Wear protective gloves, eye protection and an organic vapour respirator. Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. Dispose of container in accordance with local, regional and national regulations.

SECTION III: COMPOSITION AND INFORMATION ON HAZARDOUS INGREDIENTS

NAME	CAS #	% WEIGHT	EXPOSURE LIMIT (ACGIH)	
			TLV-TWA	TLV-STEL
Asphalt	8052-42-4	15-40	0.5 mg/m³	Not established
Xylene	1330-20-7	10-30	100 ppm	150 ppm
Oxidized asphalt	64742-93-4	5-10	0.5 mg/m³	Not established

Effects of Short-Term (Acute) Exposure

INHALATION

Xylene: Xylene (mixed isomers) readily forms a vapour at room temperature. The main effect of inhaling xylene vapour is depression of the CNS, with symptoms such as headache, dizziness, nausea and vomiting. Volunteers have tolerated 100 ppm, but higher concentrations become objectionable. Irritation of the nose and throat can occur from exposure to approximately 200 ppm xylene (mixed isomers; unspecified composition) for 3-5 minutes or to 50 ppm m-xylene for 2 hours. Exposures estimated as 700 ppm (xylene composition not specified) have caused nausea and vomiting. An extremely high concentration (approximately 10 000 ppm, xylene composition not specified) has caused incoordination, loss of consciousness, respiratory failure and death. In some cases, a potentially fatal accumulation of fluid in the lungs (pulmonary oedema) may result. The symptoms of pulmonary oedema include coughing, chest pain and shortness of breath and be delayed for up to 24 or 48 hours after exposure. These symptoms are aggravated by physical exertion. However, these effects are rarely seen since xylenes are irritating, and identifiable by odour at much lower concentrations. Xylene (mixed isomers) can accumulate in a confined space increasing the risk of toxicity. The only reported death resulted from exposure to approximately 10 000 ppm xylene (mixed isomers; unspecified composition) for several hours while painting in a confined space. The worker who died had severe lung congestion and pulmonary oedema. For two other workers who survived the exposure, both had reversible liver damage and one had reversible kidney damage. (1)

Asphalt: Exposure is not expected by this route of entry under normal product use.

SKIN CONTACT

Xylene: Xylene (mixed isomers) liquid is a moderate skin irritant based on animal information. Studies with xylene isomers have shown irritation, redness and a burning sensation can result from contact. These effects are reversible shortly (usually within 1 hour) after the contact stops. Repeated or prolonged exposure to xylene can defat the skin resulting in dermatitis (red, dry, itchy skin). Xylene (mixed isomers) liquid or vapour can be absorbed through the skin, but not as readily as when inhaled or ingested. (1)

Asphalt: Asphalt may cause irritation to the skin. (2)

EYE CONTACT

Xylene: Xylene (mixed isomers) liquid is a very mild irritant, based on animal information. (1)

Asphalt: Asphalt, in this form is not expected to cause eye irritation. (2)

INGESTION

It is unlikely that toxic amounts of this product would be ingested with normal handling and use.

Xylene: Xylene (mixed isomers) is not considered toxic if ingested based on animal information. Ingestion of large amounts is likely to cause CNS effects such as dizziness, nausea and vomiting. (1)

Asphalt: No information available.

Effects of Long-Term (Chronic) Exposure

SKIN CONTACT
Xylene: Prolonged contact with xylene (mixed isomers) is expected to cause dermatitis (dry, red skin) because of its defatting action. (1)

Asphalt: Repeated or prolonged contact may cause irritation. (2)

SKIN SENSITIZATION
Xylene: Xylene (mixed isomers) is not known to be an occupational skin sensitizer. (1)

INHALATION
Xylene: See effects described below.

Asphalt: Exposure is not expected by this route of entry under normal product use.

NERVOUS SYSTEM EFFECTS
Xylene: Long-term xylene (mixed isomers) exposure may cause harmful effects on the nervous system, but there is not enough information available to draw firm conclusions. Symptoms such as headaches, irritability, depression, insomnia, agitation, extreme tiredness, tremors, and impaired concentration and short-term memory have been reported following long-term occupational exposure to xylene and other solvents. This condition is often referred to as "organic solvent syndrome". Unfortunately, there is very little information available that isolates xylenes from other solvent exposures in the examination of these long-term neurological effects. Other study deficiencies include inadequate reporting on the duration of exposure and the exposure levels, and poor matching of controls. (1)

BLOOD/BLOOD FORMING SYSTEM
Xylene: Historical reports sometimes associate xylene exposure with certain blood effects, including leukemia, which are now known to be caused by benzene. Xylene that does not contain benzene as a contaminant is not known to cause these effects. (1)

LIVER AND KIDNEY EFFECTS
Xylene: A number of case reports and occupational studies have suggested that liver and kidney damage may result from long-term occupational exposure to xylene. However, it is not possible to attribute these effects directly to xylene exposure because generally there was exposure to other chemicals at the same time, particularly other solvents, and there was no information provided on the exposure levels or duration of exposure. (1)

Asphalt: No information available.

HEARING
Xylene: There is evidence that long-term exposure to solvent mixtures including xylenes may cause hearing loss. The simultaneous exposure to noise and solvents appears to enhance this effect. However, the limited information available does not allow a conclusion to be drawn specifically for xylene (mixed isomers). (1)

CARCINOGENICITY
Xylene: The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of xylene in humans. IARC has concluded that this chemical is not classifiable as to its carcinogenicity to humans (Group 3). The American Conference of Governmental Industrial Hygienists (ACGIH) has designated this chemical as not classifiable as a human carcinogen (A4). The US National Toxicology Program (NTP) has not listed this chemical in its report on carcinogens. (1)

Oxidized asphalt: In its 2013 monograph (Volume 103), the IARC conducted a review of the potential carcinogenicity of bitumen (the European term for asphalt). One of its conclusions was "occupational exposures to oxidized bitumens and their emissions during roofing" are classified in IARC Group 2A, "probably carcinogenic to humans.". However, due to the product form, exposure to such component is unlikely under normal conditions of use.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY
Xylene: Xylene (mixed isomers) is considered fetotoxic in humans, based on observations of reduced foetal weight, delayed ossification and persistent behavioural effects in animal studies in the absence of maternal toxicity. Other developmental effects have been observed in animal studies in the presence of maternal toxicity. (1)

REPRODUCTIVE TOXICITY
Xylene: The limited information located suggests that xylene (mixed isomers) does not cause reproductive toxicity. Xylenes have been shown to transfer into human breast milk. (1)

MUTAGENICITY
Xylene: Xylene (mixed isomers) is not known to be a mutagen. Negative results have been obtained in a few limited studies in humans. Negative results have been obtained in studies in live animals and in cultured mammalian cells and bacteria, which were carried out with pure isomers of xylene and with mixed isomers containing up to 36% ethylbenzene. (1)

TOXICOLOGICALLY SYNERGISTIC MATERIALS
Xylene: There have been several studies in humans and animals on the interaction of xylenes with drugs, alcohol and other solvents. Xylene has a high potential to interact with other compounds because it increases metabolic enzymes in the liver and decreases metabolic enzymes in the lungs. In general, exposure to related solvents, such as benzene, toluene and ethanol (alcohol) slows the rate of clearance of xylenes from the body, thus enhancing its toxic effects. In rats, exposure to xylene (mixed isomers; unspecified composition) in combination with the solvents trichloroethylene or chlorobenzène has had an additive effect in causing hearing loss, while exposure to xylene (mixed isomers) enhanced the hearing loss caused by n-hexane and decreased the toxicity of n-hexane on peripheral nerves. (1)

POTENTIAL FOR ACCUMULATION
Xylene: The three xylene isomers are readily absorbed by inhalation and ingestion and are widely distributed throughout the body. A small amount may be absorbed through the skin. Xylenes are largely broken down by the liver and most of the absorbed material is rapidly excreted in the urine as breakdown products. Small amounts are eliminated unchanged in the exhaled air. There is low potential for accumulation. (1)

SECTION IV: FIRST-AID MEASURES

If exposed or concerned: Get medical advice.

SKIN CONTACT
Wash with plenty of water. If skin irritation occurs: Get medical advice. Take off immediately all contaminated clothing and wash it before reuse.

EYE CONTACT
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice.

INHALATION
Remove person to fresh air and keep comfortable for breathing. Call a poison center if you feel unwell.

SWALLOWING
Immediately call a poison center. Do NOT induce vomiting. Rinse mouth.

SECTION V: FIRE-FIGHTING MEASURES

FLAMMABILITY: Flammable Class 1C (NFPA)
EXPLOSION DATA: Sensitivity to mechanical impact: No
Sensitivity to static charge: Can accumulate static charge by flow.
FLASH POINT: 25°C (ASTM D-93)
AUTO-IGNITION TEMPERATURE: 527°C (xylene)
FLAMMABILITY LIMITS IN AIR: (% in volume) 1 – 7 (xylene)

FIRE AND EXPLOSION HAZARDS
This product and its vapours are easily ignited by heat, sparks or flames. Vapours may form explosive mixtures with air. Vapours are heavier than air and may travel a considerable distance to a source of ignition and flash back to a leak or open container. The product may ignite on contact with strong oxidizing agents. Do not cut, puncture or weld empty containers.

COMBUSTION PRODUCTS
Irritating and/or toxic gases or fumes may be generated by thermal decomposition or combustion. Toxic and/or irritating gases or fumes can emanate from empty containers when submitted to high temperatures: CO, CO_2, Aldehydes, ketone, acrolein, halogenated compound. During a fire, carbon monoxide, carbon dioxide, reactive hydrocarbons, low molecular weight aldehydes (e.g. acetaldehyde) and other irritating and toxic vapours, fumes and smoke may be generated.

FIRE FIGHTING INSTRUCTIONS
Evacuate area. Wear self-contained breathing apparatus and appropriate protective clothing in accordance with standards. Approach fire from upwind and fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Always stay away from containers because of the high risk of explosion. Stop leak before attempting to put out the fire. If leak cannot be stopped, and if there is no risk to the surrounding area, let the fire burn itself out. Move containers from fire area if this can be done without risk. Cool containers with flooding quantities of water until well after fire is out.

MEANS OF EXTINCTION
Anti-alcohol or universal foam, dry chemical powder, CO_2, sand. Use of water spray when fighting fire may be inefficient because of the low flash point of the product.

SECTION VI: ACCIDENTAL RELEASE MEASURES

RELEASE OR SPILL
Ventilate area. Wear appropriate protective equipment during cleanup. Eliminate all sources of ignition. Shut off source of leak if you can do it without risk. Contain the spill. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Sweep or shovel into containers with lids, use clean non-sparking tools to collect absorbed material. Cover and remove to appropriate well-ventilated area until disposal. Do not touch or walk through spilled material. Wash spill area with soap and water. Prevent entry into waterways, sewers, basements or confined areas. Dispose of the product according to the environmental regulations.

SECTION VII: HANDLING AND STORAGE

HANDLING
This product is flammable and toxic. Avoid contact with eyes, skin and clothing. Do not ingest. Avoid breathing mist, vapour or dust. Wash thoroughly after handling. Before handling, it is very important that ventilation controls are operating and protective equipment requirements are being followed. People working with this product would be properly trained regarding its hazards and its safe use. Eliminate all ignition sources (e.g. sparks, open flames, hot surfaces). Keep away from heat. Ground transfer containers to avoid static accumulation. Tightly reseal all partially used containers. Do not cut, puncture or weld containers.

STORAGE
Store in a cool well-ventilated area out of direct sunlight and away from heat and ignition sources. Keep storage areas clear of combustible materials. No smoking near storage area. Store away from incompatible materials. Store the product according to occupational health and safety regulations and fire and building codes. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. Have appropriate fire extinguishers and spill clean-up equipment near storage area. Inspect all containers to make sure they are properly labelled.

SECTION VIII: EXPOSURE CONTROLS / PERSONAL PROTECTION

HANDS: Wear gloves made from polyvinyl alcohol (PVA) or viton.
RESPIRATORY: If the TLV is exceeded, if use is performed in a poorly ventilated confined area, use an approved respirator in accordance with standards.
EYES: Wear chemical safety goggles in accordance with standards.
OTHERS: Eye bath and safety shower.
CONTROL OF VAPOURS: Local exhaust is needed to control vapour and dust level to below recommended limits.

SECTION IX: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Paste
ODOUR AND APPEARANCE:	Black paste with strong solvent odour
ODOUR THRESHOLD:	Not available
VAPOUR DENSITY (air = 1):	Heavier than air
EVAPORATION RATE (Butyl acetate = 1):	0.7 (xylene)
BOILING POINT (760 mm Hg):	Not available
FREEZING POINT:	Not available
SPECIFIC GRAVITY (H_2O = 1):	1.15 kg/L
SOLUBILITY IN WATER (20°C):	Insoluble
VOLATILE ORGANIC COMPOUND (V.O.C.):	225 g/L

SECTION X: STABILITY AND REACTIVITY

STABILITY: This material is stable.
CONDITIONS OF REACTIVITY: Avoid excessive heat
INCOMPATIBILITY: Basis, acids and strong oxidizing agents.
HAZARDOUS DECOMPOSITION PRODUCTS: None identified.
HAZARDOUS POLYMERISATION: None

SECTION XI: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL DATA
Xylene: (1)
LC_{50} (male rat): 6 350 ppm (4-hour exposure) (unspecified isomers and ethylbenzene)
LD_{50} (oral, rat): 3 523 mg/kg

Asphalt: Not available.

Effects of Short-Term (Acute) Exposure

EYE IRRITATION
Xylene: Xylene (mixed isomers) is a very mild eye irritant. (1)

Asphalt: No information available.

SKIN IRRITATION
Xylene: Xylene (mixed isomers) is a moderate skin irritant. (1)

Asphalt: No information available.

INHALATION
Xylene: The major effect of xylene inhalation is on the CNS. There is initial excitation followed by depression, drowsiness, incoordination, and unconsciousness at approximately 2 000 ppm. Death at higher concentrations is from respiratory failure due to CNS depression and/or accumulation of fluid in the lungs (pulmonary oedema). (1)

Asphalt:
No information available.

Effects of Long-Term (Chronic) Exposure

INHALATION
Xylene: Rats exposed to 0, 50 or 100 ppm m-xylene for 3 months (6 hours/day, 5 days/week) had significantly increased sensitivity to pain at 50 ppm and impaired rotarod performance at 100 ppm. Reversibility was not assessed. Male rats exposed to 0, 100 or 1 000 ppm m-xylene for 12 weeks (6 hours/day, 5 days/week) had a dose-related impairment of learning when tested in a maze. The. Impairment was still present 2 months after exposure ended. (1)

CARCINOGENICITY
Xylene: IARC has determined that there is inadequate evidence for carcinogenicity of xylene (mixed isomers) in animals. (1)

Asphalt: No information available.

TERATOGENICITY, EMBRYOTOXICITY, FETOTOXICITY
Xylene: Xylene (mixed isomers) causes developmental toxicity (fetotoxic). Reduced foetal weight, delayed ossification and persistent behavioural effects have been observed in the absence of maternal toxicity. Other developmental effects have been observed in the presence of maternal toxicity. (1)

Asphalt: No information available.

REPRODUCTIVE EFFECTS
Xylene: The limited information located suggests that xylene (mixed isomers) does not cause reproductive toxicity. (1)

Asphalt: No information available.

MUTAGENICITY
Xylene: Xylene (mixed isomers) is not known to be a mutagen. Negative results have been obtained in studies using live animals and in most studies with cultured mammalian cells and bacteria which were carried out with pure isomers of xylene and with mixed isomers containing up to 36% ethylbenzene. (1)

Asphalt: No information available.

SECTION XII: ECOLOGICAL INFORMATION

ENVIRONMENTAL EFFECTS
Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams, or public waterways. Block off drains and ditches. Provincial and federal regulations may require that environmental and / or other agencies be notified of a spill incident. Spill area must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life.

SECTION XIII: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL
This product is listed as hazardous waste. Consult local, state, provincial or territory authorities to know disposal methods. Also listed as hazardous waste by the RCRA (USA); waste disposal as to follow EPA regulations. Do not dispose of waste with normal garbage or sewers systems.

SECTION XIV: TRANSPORT INFORMATION

CLASSIFICATION (TDG - DOT): Class 3
IDENTIFICATION NUMBER: UN 1133
SHIPPING NAME: Adhesive
PACKING GROUP: III
CONTAINERS ARE IN CONFORMITY WITH STANDARDS.

Classification based on Section V of this document.

SECTION XV: REGULATORY INFORMATION

DSL: All constituents of this product are included on the Domestic Substances List (DSL – Canada).
TSCA: All constituents of this product are included on the Toxic Substances Control Act Inventory (TSCA – United States).
Prop. 65: This product does not contain chemicals known to the State of California to cause cancer or reproductive toxicity.

SECTION XVI: OTHER INFORMATION

GLOSSARY
ASTM: American Society for Testing and Materials (United States)
CAS: Chemical Abstract Services
CSA: Canadian Standardization Association
DOT: Department of Transportation (United States)
EPA: Environmental Protection Agency (United States)
GHS Globally Harmonized System
LD_{50}/LC_{50}: Less high lethal dose and lethal concentration published
NIOSH: National Institute for Occupational Safety and Health (United States)
RCRA: Resource Conservation and Recovery Act (United States)
TDG: Transportation of Dangerous Goods (Canada)
TLV-TWA: Threshold Limit Value – Time-Weighted Average

References:
(1) CHEMINFO (2015) Canadian Centre of Occupational Health and Safety, Hamilton (Ontario) Canada.
(2) Safety Data Sheet of the supplier.

Code of SDS: **CA U DRU SS FS 028**
For more information: 1 800 567-1492

The Safety Data Sheets of Tucson Rubberized Coatings are available on the Internet at the following site: **www.rubberized.com**

Justification of the update:
- Triennial update.
- GHS format.
- Addition of oxidized asphalt to the list of ingredients

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.