

***EXPLANATION:** IARC MONOGRAPHS - JAN. 1985 - THE STUDY INDICATES THERE IS SUFFICIENT EVIDENCE FOR CARCINOGENICITY IN ANIMALS FROM EXPOSURE TO EXTRACTS OF STEAM-REFINED BITUMENS, AIR-REFINED BITUMENS AND MIXTURES OF STEAM-REFINED AND AIR-DEFINED BITUMENS. DUE TO INADEQUATE EVIDENCE IN HUMANS, BUT SUFFICIENT EVIDENCE IN ANIMALS, BITUMEN IS CONSIDERED BY OSHA AS IF IT PRESENTS A CARCINOGENIC RISK TO HUMANS. THERE IS INADEQUATE EVIDENCE THAT BITUMENS ALONE ARE CARCINOGENIC TO HUMANS.

OSHA PERMISSIBLE EXPOSURE LIMIT: N/A FOR EMULSION (ASPHALT FUMES: 5mg/m3 MAX CEILING)

ACGIH THRESHOLD LIMIT VALUE: N/A FOR EMULSION (ASPHALT FUMES: 5mg/m3 TWA)

OTHER EXPOSURE LIMIT USED: NONE

ROUTES OF EXPOSURE: PRIMARY - SKIN CONTACT
SECONDARY - INGESTION OR INHALATION

SIGNS AND SYMPTOMS OF EXPOSURE: SKIN - CONTACT WITH HOT PRODUCT MAY CAUSE THERMAL BURNS. PROLONGED OR REPEATED CONTACT WITH COOL PRODUCT MAY CAUSE IRRITATION. ASPHALT EMULSIONS HAVE NOT BEEN INVESTIGATED FOR POSSIBLE CARCINOGENICITY.

INGESTION - EMULSIONS MAY CAUSE NAUSEA AND IRRITATION OF GASTROINTESTINAL TRACT.

INHALATION - EXCESSIVE EXPOSURE TO FUMES, VAPORS OR MISTS MAY CAUSE SOME RESPIRATORY DISCOMFORT OF THE MUCOUS MEMBRANES. ASPHALT, WHEN HEATED, RELEASES VARIOUS CONCENTRATIONS OF HYDROGEN SULFIDE (H₂S) GAS. H₂S IS AN EXTREMELY TOXIC AND FLAMMABLE GAS THAT AT LOW CONCENTRATIONS IS IRRITATING TO THE RESPIRATORY TRACT AND HAS A ROTTEN EGG ODOR. ODOR CAN NOT BE RELIED ON AS A MEANS OF DETECTION BECAUSE AT HIGHER CONCENTRATIONS OF 500 - 1000 ppm MAY LEAD TO UNCONSCIOUS, RESPIRATORY PARALYSIS AND DEATH.

EMERGENCY AND FIRST AID PROCEDURES: INHALATION - IF OVEREXPOSURE OCCURS, REMOVE INDIVIDUAL TO FRESH AIR. IF DISCOMFORT CONTINUES, SEEK MEDICAL ATTENTION.
EYES - FLUSH EYES IMMEDIATELY WITH COPIOUS AMOUNTS OF WATER AT LEAST 15 MINUTES OCCASIONALLY LIFTING THE UPPER AND LOWER EYE LIDS. GET MEDICAL ATTENTION IMMEDIATELY.

SKIN - HOT PRODUCT SHOULD BE COOLED WITH WATER. CLEAN SKIN WATERLESS TYPE HAND CLEANER FOLLOWED BY SOAP AND WATER. IF IRRITATION OR BURN DEVELOPS, SEEK MEDICAL ATTENTION. COOL PRODUCT MAY BE CLEANED WITH WATERLESS TYPE HAND CLEANER.

INGESTION: IF MATERIAL IS SWALLOWED, DO NOT INDUCE VOMITING. TREAT SYMPTOMATICALLY AND GET MEDICAL ATTENTION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: UNKNOWN

SECTION 7 - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION: NORMALLY NOT NEEDED, BUT IF CONDITIONS WARRANT USE ORGANIC VAPOR RESPIRATORS.

VENTILATION LOCAL EXHAUST: AS NEEDED TO REMOVE MISTS OR VAPORS.

PROTECTIVE GLOVES: IMPERVIOUS COATING

EYE PROTECTION: CHEMICAL GOGGLES OR SAFETY GLASSES WITH SIDE SHIELDS.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: APPROPRIATE CLOTHING TO PREVENT REPEATED OR PROLONGED CONTACT WITH SKIN.

SECTION 8 - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: AVOID HEATED PRODUCT FUMES.

OTHER PRECAUTIONS: OBSERVE GOOD PERSONAL HYGIENE. LAUNDRY CONTAMINATED CLOTHES BEFORE REUSE. DO NOT WEAR LEATHER SHOES OR BOOTS THAT HAVE BECOME SATURATED WITH PRODUCT.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: CREATE DIKES OR PONDS AS SOON AS POSSIBLE. USE EARTH, SAWDUST OR SAND TO MAKE DIKES OR TO USE AS ABSORBENT. UPON ABSORPTION, MATERIAL WILL REVERT TO ASPHALT STATE AND CAN BE REMOVED WITH ABSORPTION MATERIAL.

WASTE DISPOSAL METHODS: EMULSION CAN BE MIXED WITH ANY STABILIZING MATTER (e.g., ROCK, GRAVEL OR SAND) IN ORDER TO CHANGE ITS STATE FROM A LIQUID INTO A SOLID. THIS MATERIAL CAN THEN BE DISPOSED OF AT AN APPROVED LANDFILL.

EXPLANATION OF ABBREVIATIONS: N/D - NOT DETERMINED

N/A - NOT APPLICABLE

TLV - THRESHOLD LIMIT VALUE

TWA - TIME WEIGHTED AVERAGE

DISCLAIMER OF LIABILITY

BY P.C.T.

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