

MATERIAL SAFETY DATA SHEET: DS-67 PLUS AEROSOL

Special Fire Fighting Procedures:

FIREFIGHTERS SHOULD WEAR A SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE GEAR. COOL FIRE-EXPOSED CONTAINERS WITH WATER SPRAY TO PREVENT BURSTING.

Unusual Fire and Explosion Hazards:

VAPORS ARE HEAVIER THAN AIR AND MAY TRAVEL TO DISTANT AND/OR LOW-LYING SOURCES OF IGNITION AND FLASHBACK. PRODUCT MAY PRODUCE A FLOATING FIRE HAZARD AS LIQUID FLOATS ON WATER. FLAME EXTENSION: > 36 INCHES. BURNBACK: 6 INCHES. THE USE OF WATER SPRAY (F0G) WHILE EFFECTIVE, MAY CAUSE FROTHING AND FOAMING. NEVER USE A WATER JET AS THIS WILL JUST SPREAD THE FIRE.

Section V - Health and Hazard Data

Threshold Limit Value:

NOT ESTABLISHED FOR MIXTURE. SEE SECTION II.

Effects of Overexposure:

Acute: (Short Term Exposure)

EYE CONTACT: CAUSES SEVERE IRRITATION SEEN AS TEARING, REDNESS, BLURRED VISION, AND A BURNING SENSATION. PROLONGED CONTACT MAY CAUSE SEVERE IRRITATION AND TRANSIENT CORNEAL INJURY. SKIN CONTACT: CAUSES IRRITATION SEEN AS ITCHING AND REDNESS. PROLONGED CONTACT CAN CAUSE SEVERE IRRITATION AND A BURNING SENSATION AND MAY CAUSE DRYING, DEFATTING, AND CRACKING OF THE SKIN RESULTING IN DERMATITIS. PRODUCT MAY BE ABSORBED THROUGH THE SKIN IN HARMFUL AMOUNTS. INHALATION: CAUSES RESPIRATORY IRRITATION SEEN AS COUGHING AND SNEEZING. AT LOW VAPOR CONCENTRATIONS, NO HARMFUL EFFECTS ARE EXPECTED. AT HIGH VAPOR CONCENTRATIONS, INHALATION MAY CAUSE CENTRAL NERVOUS SYSTEM EFFECTS SUCH AS HEADACHE, DIZZINESS, DROWSINESS, WEAKNESS, UNCONCIOUSNESS, POSSIBLE ANESTHETIC EFFECTS FROM CENTRAL NERVOUS SYSTEM DEPRESSION, AND MAY BE FATAL. EXCESSIVE EXPOSURE MAY CAUSE CARBOXYHEMOGLOBINEMIA, THEREBY IMPAIRING THE BLOOD'S ABILITY TO TRANSPORT OXYGEN. THIS CAN BE ADDITIVE TO THE INCREASE CAUSED BY SMOKING AND OTHER CARBON MONOXIDE SOURCES. INGESTION: MAY CAUSE IRRITATION WITH POSSIBLE NAUSEA, VOMITING, AND DIARRHEA. ALCOHOL MAY EXACERBATE THE EFFECTS OF OVEREXPOSURE. AVOID ALCOHOL CONSUMPTION. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL.

Chronic: (Long Term Exposure)

ON RARE OCCASIONS, PROLONGED AND REPEATED EXPOSURE TO HYDROCARBON MIST POSES A RISK OF CHRONIC LUNG INFLAMMATION. THIS CONDITION IS USUALLY ASYMPTOMATIC AS A RESULT OF REPEATED SMALL ASPIRATIONS. SHORTNESS OF BREATH AND COUGHING ARE THE MOST COMMON SYMPTOMS. ASPIRATION MAY LEAD TO PULMONARY EDEMA AND HEMORRHAGE AND MAY BE FATAL. SIGNS OF LUNG INVOLVEMENT INCLUDE INCREASED RESPIRATION AND HEART RATES AS WELL AS A BLUIISH DISCOLORATION OF THE SKIN. CHRONIC SKIN CONTACT MAY PROMOTE DERMATITIS AND OIL ACNE. IN RARER CASES, AN INCREASED SENSITIVITY TO SUNLIGHT (PHOTOSENSITIVITY) MAY OCCUR. EXCESSIVE EXPOSURE TO PRODUCT MAY CAUSE CARBOXYHEMOGLOBINEMIA, THEREBY IMPAIRING THE BLOOD'S ABILITY TO TRANSPORT OXYGEN. EFFECTS MAY BE INCREASED BY SMOKING OR OTHER SOURCE OF CARBON MONOXIDE. CHRONIC INHALATION OF SOLVENTS LIKE TOLUENE HAVE CAUSED HEARTBEAT IRREGULARITY, HEARTBEAT INCREASE, AND PERMANENT CENTRAL AND PERIPHERAL NERVOUS SYSTEM DAMAGE, RESULTING IN DECREASED LEARNING ABILITY, LOSS OF MEMORY, PERSONALITY CHANGES, AND DISTURBANCES IN GAIT. A CONDITION KNOWN AS "PAINTER'S SYNDROME" CAN OCCUR CAUSING A LOSS OF SENSATION IN THE ARMS AND HANDS (PERIPHERAL NEUROPATHY). PROLONGED OR REPEATED EXPOSURE MAY CAUSE CARDIAC SENSITIZATION. MAY CAUSE LIVER AND KIDNEY EFFECTS. MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE ARE PRE-EXISTING RESPIRATORY AND SKIN CONDITIONS SUCH AS ASTHMA, EMPHYSEMA, AND DERMATITIS; PRE-EXISTING LIVER AND KIDNEY DISEASES; PRE-EXISTING HEART DISORDERS. TARGET ORGANS: CENTRAL AND PERIPHERAL NERVOUS SYSTEM, LIVER, KIDNEY, AUDITORY SYSTEM, BLOOD-FORMING ORGANS, AND HEART. THE PRIMARY ROUTES OF EXPOSURE ARE SKIN AND EYE CONTACT.

Primary Routes of Entry

<input checked="" type="checkbox"/> Inhalation	<input type="checkbox"/> Ingestion	<input checked="" type="checkbox"/> Absorption
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Emergency First Aid Procedures:

Inhalation:

REMOVE FROM THE AREA TO FRESH AIR. IF NOT BREATHING, CLEAR THE AIRWAY AND START MOUTH TO MOUTH ARTIFICIAL RESPIRATION. GET IMMEDIATE MEDICAL ATTENTION.

Eye Contact:

IMMEDIATELY RINSE THE EYES WITH WATER. REMOVE ANY CONTACT LENSES AND CONTINUE FLUSHING FOR AT LEAST 15 MINUTES. HOLD THE EYELIDS APART TO ENSURE RINSING OF THE ENTIRE SURFACE OF THE EYES AND LIDS WITH WATER. GET IMMEDIATE MEDICAL ATTENTION.

Skin Contact:

WASH AFFECTED AREAS WITH LARGE AMOUNTS OF SOAP AND WATER FOR 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES. SEEK MEDICAL ATTENTION IF IRRITATION PERSISTS. WASH CLOTHING AND CLEAN SHOES BEFORE REUSE.

Ingestion:

GIVE 3 TO 4 GLASSES OF WATER, BUT DO NOT INDUCE VOMITING. IF VOMITING OCCURS, GIVE FLUIDS AGAIN. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.

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Notes to Physician:

CHLORINATED HYDROCARBONS MAY SENSITIZE THE HEART TO EPINEPHRINE AND OTHER CIRCULATING CATECHOLAMINES SO THAT ARRHYTHMIAS MAY OCCUR. CAREFUL CONSIDERATION OF THIS POTENTIAL ADVERSE EFFECT SHOULD PRECEDE ADMINISTRATION OF EPINEPHRINE OR OTHER CARDIAC STIMULANTS AND THE SELECTION OF BRONCHODILATORS. INGESTION AND SUBSEQUENT VOMITING OF THIS PRODUCT CAN LEAD TO ASPIRATION OF THE PRODUCT INTO THE LUNGS WHICH CAN CAUSE DAMAGE AND MAY BE FATAL. DEPENDING ON THE AMOUNT INGESTED AND RETAINED AS WELL AS THE TOXICITY OF THE PRODUCT, GASTRIC LAVAGE SHOULD BE CONSIDERED. KEEP PATIENT'S HEAD BELOW HIPS TO PREVENT PULMONARY ASPIRATION. IF COMATOSE, A CUFFED ENDOTRACHEAL TUBE WILL PREVENT ASPIRATION.

Section VI - Toxicity Information

Product Contains Chemicals Listed as Carcinogen or Potential Carcinogen By:

IARC NTP OSHA ACGIH Other

VOC CONTENT: 84.9% BY WEIGHT; 92.4% BY VOLUME; 585 G/L

METHYLENE CHLORIDE

ORL-HMN LDLo: 357 MG/KG 4.
ORL-RAT LD50: 1600 MG/KG 4.
SKN-RBT SDT: 100 MG/24H MODERATE 4.
EYE-RBT SDT: 162 MG MODERATE 4.
IHL-RAT LC50: 52 G/M3 4.
IHL-HMN TCLo: 500 PPM/8H 4.

TUMORIGENIC DATA

IHL-RAT TCLo: 3500 PPM/6H/2Y-I 4.

REPRODUCTIVE DATA

IHL-RAT TCLo: 4500 PPM/24H/FEMALE 1-17 DAYS AFTER CONCEPTION 4.

CARCINOGENICITY

ACGIH GROUP A3: CONFIRMED ANIMAL CARCINOGEN WITH UNKNOWN RELEVANCE TO HUMANS
IARC GROUP 2B: ANIMAL SUFFICIENT EVIDENCE; HUMAN INADEQUATE EVIDENCE
NTP: REASONABLY ANTICIPATED TO BE A HUMAN CARCINOGEN

METHYLENE CHLORIDE HAS BEEN EVALUATED FOR POSSIBLE CANCER CAUSING EFFECTS IN LABORATORY ANIMALS. INHALATION STUDIES AT CONCENTRATIONS OF 2000 AND 4000 PPM INCREASED THE INCIDENCE OF MALIGNANT LIVER AND LUNG TUMORS IN MICE. THREE INHALATION STUDIES OF RATS HAVE SHOWN INCREASED INCIDENCE OF BENIGN MAMMARY GLAND TUMORS IN FEMALE RATS AT CONCENTRATIONS OF 500 PPM AND ABOVE AND INCREASES IN BENIGN MAMMARY GLAND TUMORS IN MALES AT CONCENTRATIONS OF 1500 PPM AND ABOVE. RATS EXPOSED TO 50 AND 200 PPM VIA INHALATION SHOWED NO INCREASED INCIDENCE OF TUMORS. MICE AND RATS EXPOSED BY INGESTION AT LEVELS UP TO 250 MG/KG/DAY LIFETIME AND HAMSTERS EXPOSED VIA INHALATION TO CONCENTRATIONS UP TO 3500 PPM LIFETIME DID NOT SHOW AN INCREASED INCIDENCE OF TUMORS. 5.

EPIDEMIOLOGY STUDIES OF 751 HUMANS CHRONICALLY EXPOSED TO METHYLENE CHLORIDE IN THE WORKPLACE OF WHICH 252 WERE EXPOSED FOR A MINIMUM OF 20 YEARS DID NOT DEMONSTRATE ANY INCREASE IN DEATHS CAUSED BY CANCER OR CARDIAC PROBLEMS. A SECOND STUDY OF 2227 WORKERS CONFIRMED THESE RESULTS. 5.

LABORATORY ANIMAL STUDIES ON MICE, RATS, AND RABBITS HAVE BEEN CONDUCTED TO EVALUATE THE POTENTIAL REPRODUCTIVE AND DEVELOPMENTAL EFFECTS OF METHYLENE CHLORIDE EXPOSURES. METHYLENE CHLORIDE EXPOSURE HAS NOT BEEN SHOWN TO CAUSE TERATOGENIC EFFECTS (BIRTH DEFECTS) IN EXPERIMENTAL ANIMALS. 5.

LIGHT ALIPHATIC SOLVENT NAPHTHA

ORL-RAT TDLo: 10 GM/KG/4W-I 4.
IHL-RAT TCLo: 7500 PPM/13W-I 4.

1-METHOXY-2-PROPANOL

IHL-RAT LC50: 10,000 PPM/5H 5.
ORL-RAT LD50: 7200 MG/KG 4.
SKN-RBT LD50: 13 G/KG 5.
SKN-RBT OPEN IRRITATION TEST: 500 MG MILD 5.
EYE-RBT SDT: 500 MG/24H MILD 5.

TOLUENE

EYE-RBT SDT: 870 UG MILD 4.
SKN-RBT SDT: 20 MG/24H MODERATE 4.
SKN-RBT LD50: 12.2 G/KG 4.
ORL-HMN LDLo: 50 MG/KG 4.
ORL-RAT LD50: 636 MG/KG 4.
IHL-RAT LC50: 49 GM/M3/4H 4.

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ANIMAL STUDIES HAVE SHOWN THAT REPEATED INHALATION OF HIGH LEVELS PRODUCED HISTOLOGICAL CHANGES IN THE BRAIN, DEGENERATION OF THE HEART TISSUE, CARDIAC SENSITIZATION, AND POSSIBLE IMMUNE SYSTEM SUPPRESSION. INTENTIONAL ABUSE OF TOLUENE VAPORS HAS BEEN LINKED TO DAMAGE OF THE BRAIN, KIDNEY, AND LIVER. 5.

MANY CASE STUDIES INVOLVING ABUSE DURING PREGNANCY INDICATE THAT TOLUENE CAN CAUSE BIRTH DEFECTS, GROWTH RETARDATION, AND LEARNING DIFFICULTIES. 5.

MEDIUM ALIPHATIC SOLVENT NAPHTHA
ORL-RAT LD50: >25 ML/KG 5.
IHL-RAT LC50: >710 PPM/4HR 5.
SKN-RBT LD50: 5 ML/KG 5.
SKN-RBT: MODERATE IRRITATION 5.
EYE-RBT: NEGLIGIBLE IRRITATION 5.

AT VERY HIGH ORAL DOSES, THIS PRODUCT CAUSED REVERSIBLE DAMAGE TO THE STOMACH, LIVER, AND KIDNEY OF MALE RATS. 5.

MALE RATS EXPOSED FOR 90 DAYS BY INHALATION TO VAPORS OF SIMILAR SOLVENTS SHOWED EVIDENCE OF KIDNEY DAMAGE. IN ONE OF THE STUDIES, A LOW GRADE ANEMIA WAS ALSO OBSERVED. 5.

THIS PRODUCT IS FORMULATED WITH PETROLEUM DISTILLATES WHICH ARE CONSIDERED TO BE SEVERELY REFINED AND NOT CONSIDERED TO BE CARCINOGENIC UNDER IARC. 5.

PROPANE
IHL-LC50 >40% BY VOLUME 5.

N-BUTANE
IHL-RAT LC50: 658 G/M3/4H 4.

HUMAN VOLUNTEERS EXPOSED REPEATEDLY TO GASES OF SIMILAR HYDROCARON MIXTURES RANGING FROM 250 TO 1000 PPM EXHIBITED NO CARDIAC OR PULMONARY FUNCTION ABNORMALITIES. 5.

Section VII - Reactivity Data

Stability [v] Stable [] Unstable Conditions to Avoid: AVOID HEAT, HOT SURFACES, SPARKS, AND OPEN FLAMES.	Hazardous Polymerization [v] Will not occur [] May occur Conditions to Avoid: N/A
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Incompatibility (Materials to Avoid):
STRONG OXIDIZING AGENTS SUCH AS CHLORINE BLEACH, CONCENTRATED HYDROGEN PEROXIDE, AND NITROGEN PEROXIDE; ALKALIES; AMINES; OXYGEN; WATER; REACTIVE POWDERED METALS SUCH AS ALUMINUM, COPPER, BRASS, BRONZE, CHROMIUM, MAGNESIUM, TIN, ZINC, AND ALLOYS.

Hazardous Decomposition Products:
OXIDES OF CARBON; HYDROGEN CHLORIDE GAS, PHOSGENE GAS, CHLORINE GAS, HYDROCHLORIC ACID, ALDEHYDES, KETONES, AND ORGANIC ACIDS.

Section VIII - Spill Or Leak Procedures

Steps to be Taken if Material is Released or Spilled:
DUE TO THE NATURE OF THE AEROSOL PACKAGING, A LARGE SPILL IS UNLIKELY. FOR A SMALL SPILL, WEAR APPROPRIATE PROTECTIVE CLOTHING, ELIMINATE IGNITION SOURCES OF ELECTRICAL, STATIC, OR FRICTIONAL SPARKS, VENTILATE THE AREA, ABSORB WITH AN INERT MATERIAL AND TRANSFER ALL MATERIAL INTO A PROPERLY LABELED CONTAINER FOR DISPOSAL. USE CARE AS SPILLS MAY BE SLIPPERY.

Waste Disposal Method(s):
DISPOSE OF IN ACCORDANCE WITH ALL FEDERAL, STATE, AND LOCAL REGULATIONS. TYPICAL DISPOSAL IS TO WRAP THE EMPTY AEROSOL CONTAINER IN SEVERAL LAYERS OF NEWSPAPER AND DISPOSE OF IN THE TRASH. AEROSOL RECYCLING PROGRAMS ARE AVAILABLE IN MANY AREAS. DO NOT PUNCTURE OR INCINERATE THIS CONTAINER.

Neutralizing Agent:
N/A

Section IX - Special Protection Information

Required Ventilation:
LOCAL VENTILATION IS RECOMMENDED TO CONTROL EXPOSURE FROM OPERATIONS THAT CAN GENERATE EXCESSIVE LEVELS OF MISTS OR VAPORS. LOCAL VENTILATION IS PREFERRED, BECAUSE IT PREVENTS DISPERSION INTO WORK AREAS BY CONTROLLING

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IT AT ITS SOURCE.

Respiratory Protection:

RESPIRATORS SHOULD BE SELECTED BY AND USED UNDER THE DIRECTION OF A TRAINED HEALTH AND SAFETY PROFESSIONAL FOLLOWING REQUIREMENTS FOUND IN OSHA'S RESPIRATOR STANDARD (29 CFR 1910.134) AND ANSI'S STANDARD FOR RESPIRATORY PROTECTION (Z88.2-1992). FOR CONCENTRATIONS ABOVE THE TLV AND/OR PEL BUT LESS THAN 10 TIMES THESE LIMITS, A NIOSH APPROVED HALF-FACEPIECE RESPIRATOR EQUIPPED WITH APPROPRIATE CHEMICAL CARTRIDGES MAY BE USED. FOR CONCENTRATIONS GREATER THAN 10 TIMES THE TLV AND/OR PEL, CONSULT THE NIOSH RESPIRATOR DECISION LOGIC FOUND IN PUBLICATION NO. 87-116 OR ANSI Z88.2-1992.

Glove Protection:

POLYVINYL ALCOHOL GLOVES SHOULD BE WORN. ENSURE COMPLIANCE WITH OSHA'S PERSONAL PROTECTIVE EQUIPMENT (PPE) STANDARD FOR HAND PROTECTION, 29 CFR 1910.138.

Eye Protection:

CHEMICAL GOGGLES SHOULD BE WORN WHEN HANDLING. ENSURE COMPLIANCE WITH OSHA'S PERSONAL PROTECTIVE EQUIPMENT (PPE) STANDARD FOR EYE AND FACE PROTECTION, 29 CFR 1910.133.

Other Protection:

WEAR PROTECTIVE CLOTHING WHEN HANDLING. A SAFETY SHOWER AND AN EYEWASH STATION SHOULD BE AVAILABLE.

Section X - Storage and Handling Information

Storage Temperature

Max: 120°F. Min: 35°F.

Storage Conditions

Indoors Outdoors Heated Refrigerated

Precautions to be Taken in Handling and Storing:

USE WITH CAUTION AROUND HEAT, SPARKS, PILOT LIGHTS, STATIC ELECTRICITY, AND OPEN FLAME.

Other Precautions:

KEEP OUT OF REACH OF CHILDREN. READ THE ENTIRE LABEL BEFORE USING THE PRODUCT. FOLLOW THE LABEL DIRECTIONS.

Section XI - Regulatory Information

<u>Chemical Name</u>	<u>CAS Number</u>	<u>Upper % Limit</u>
METHYLENE CHLORIDE	75-09-2	20
TOLUENE	108-88-3	15

Those Ingredients listed above are subject to the reporting requirements of 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Please call 1-800-527-9919 for additional information if you are a California customer. This MSDS is not intended for users in the state of California.

Section XII - References

1. THRESHOLD LIMIT VALUES FOR CHEMICAL SUBSTANCES AND PHYSICAL AGENTS AND BIOLOGICAL EXPOSURE INDICES, ACGIH, 2006.
2. OSHA PEL.
3. SAX'S DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS, EIGHTH EDITION, RICHARD J. LEWIS, SR.
4. REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES, CCINFOWeb, 2006.
5. VENDORS MSDS.

ALL THE COMPONENTS OF THIS PRODUCT ARE IN COMPLIANCE WITH THE TOXIC SUBSTANCES CONTROL ACT (TSCA) AND ARE EITHER LISTED ON THE TSCA INVENTORY OR OTHERWISE EXEMPTED FROM LISTING.

IRR:IRRITANT, FLAM/FLAMM:FLAMMABLE, COMB:COMBUSTIBLE, CORR:CORROSIVE CARC:CARCINOGENIC, TOX:TOXIC, N/A:NOT APPLICABLE, N/E:NOT ESTABLISHED, COC:CLEVELAND OPEN CUP, PMCC:PENSKY-MARTIN CLOSED CUP, TCC:TAGLIABUE CLOSED CUP, LEL:LOWER EXPLOSION LIMIT, UEL:UPPER EXPLOSION LIMIT, NFPA:NATIONAL FIRE PROTECTION ASSOCIATION, IARC:INTERNATIONAL AGENCY FOR THE RESEARCH ON CANCER, NTP:NATIONAL TOXICOLOGY PROGRAM, OSHA:OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION, ACGIH:AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS, TLV:THRESHOLD LIMIT VALUE, PEL:PERMISSIBLE EXPOSURE LIMIT, STEL:SHORT-TERM EXPOSURE LIMIT, MLD:MILD, MOD:MODERATE, SEV:SEVERE, MUT:MUTAGENIC, ASPHYX:ASPHYXIAN, PNOS:PARTICLES (INSOLUBLE) NOT OTHERWISE SPECIFIED, PNOR:PARTICULATES NOT OTHERWISE REGULATED, SDT:STANDARD DRAIZE TEST, ORL:ORAL, IHL:INHALATION, HMN:HUMAN

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