

SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 02365

NAME: Triphenylphosphine

24 HOUR EMERGENCY TELEPHONE: (800) 535-5053(USA)/ 352-323-3500
(INTERNATIONAL)

TO REQUEST AN MSDS: (800) 869-9290

CUSTOMER SERVICE: (630) 766-2112

SECTION 2. COMPOSITION/INFORMATION ON INGREDIENTS

CAS #: 603-35-0

MF: $C_{18}H_{15}P$

MW: 262.28

PURITY:

SECTION 3. HAZARDS IDENTIFICATION

IRRITANT. ENVIRONMENTAL HAZARD.

TARGET ORGANS: EYES. SKIN. RESPIRATORY SYSTEM. G.I. TRACT. CENTRAL
NERVOUS SYSTEM.**POTENTIAL HEALTH EFFECTS**

EYE: CAUSES EYE IRRITATION.

SKIN: POSSIBLE SKIN SENSITISER IN ANIMAL STUDIES.

INGESTION:	MAY BE HARMFUL BY INGESTION. POSSIBLE RISK OF SERIOUS LONG TERM EFFECTS BY PROLONGED EXPOSURE.
INHALATION:	DUST MAY ALSO BE IRRITATING TO THE RESPIRATORY TRACT. POSSIBLE RISK OF SERIOUS LONG TERM EFFECTS.

SECTION 4. FIRST-AID MEASURES

EYES:	IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES. ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS. GET IMMEDIATE MEDICAL ATTENTION IF IRRITATION PERSISTS, OR SYMPTOMS OF OVEREXPOSURE BECOME APPARENT.
SKIN:	IMMEDIATELY WASH SKIN WITH PLENTY OF WATER FOR AT LEAST 20 MINUTES, WHILE REMOVING CONTAMINATED CLOTHING AND SHOES. GET MEDICAL ATTENTION ESPECIALLY, IF IRRITATION DEVELOPS, PERSISTS, OR SYMPTOMS OF OVEREXPOSURE BECOME APPARENT.
INHALATION:	REMOVE TO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION OR GIVE OXYGEN BY TRAINED PERSONNEL. KEEP WARM. GET IMMEDIATE MEDICAL ATTENTION.
INGESTION:	IF SWALLOWED, CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. DO NOT INDUCE VOMITING UNLESS INSTRUCTED BY MEDICAL PERSONNEL. GET MEDICAL ATTENTION.
NOTES FOR PHYSICIAN:	TREAT SYMPTOMATICALLY AND SUPPORTIVELY.

SECTION 5. FIRE FIGHTING MEASURES

FLASH POINT:	181C (357.8F)
EXTINGUISHING MEDIA:	USE DRY POWDER OR CARBON DIOXIDE WHEN FIGHTING A FIRE INVOLVING THIS MATERIAL.

UNSUITABLE MEDIA: WATER EXTINGUISHERS ARE NOT RECOMMENDED.

GENERAL INFORMATION: AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND, NIOSH (APPROVED OR EQUIVALENT) AND FULL PROTECTIVE GEAR.

SECTION 6. ACCIDENTAL RELEASE MEASURES

USE PROPER PERSONAL PROTECTIVE EQUIPMENT AS INDICATED IN SECTION 8.

SPILLS AND LEAKS: CLEAN UP SPILLS IMMEDIATELY, OBSERVING PRECAUTIONS IN THE PROTECTIVE EQUIPMENT SECTION. SWEEP UP OR ABSORB MATERIAL, THEN PLACE INTO A SUITABLE CLEAN, DRY, CLOSED CONTAINER. AVOID GENERATING DUSTY CONDITIONS. REFER TO SECTION 13 FOR DISPOSAL REQUIREMENTS.

ENVIRONMENTAL PRECAUTIONS: DO NOT ALLOW MATERIAL TO ENTER DRAINS OR STREAMS.

SECTION 7. HANDLING AND STORAGE

HANDLING: THIS PRODUCT SHOULD BE HANDLED ONLY BY, OR UNDER THE CLOSE SUPERVISION OF, THOSE PROPERLY QUALIFIED IN THE HANDLING AND USE OF POTENTIALLY HAZARDOUS CHEMICALS, WHO SHOULD TAKE INTO ACCOUNT THE FIRE, HEALTH AND CHEMICAL HAZARD DATA. IT SHOULD ALWAYS BE HANDLED IN AN EFFICIENT FUME HOOD OR EQUIVALENT SYSTEM. THE USER SHOULD CONSIDER THAT THE TOXICOLOGICAL AND PHYSIOLOGICAL PROPERTIES OF MANY COMPOUNDS ARE NOT YET WELL DETERMINED AND THAT NEW HAZARDOUS PRODUCTS MAY ARISE FROM REACTIONS BETWEEN CHEMICALS. CARE SHOULD BE TAKEN TO PREVENT ANY CHEMICAL FROM COMING INTO CONTACT WITH THE SKIN OR EYES AND FROM CONTAMINATING PERSONAL CLOTHING.

STORAGE: STORE IN A COOL, DRY, WELL VENTILATED AREA AWAY FROM SOURCES OF HEAT AND INCOMPATIBLE SUBSTANCES. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE.

HYGIENE PRACTICES: WASH THOROUGHLY AFTER HANDLING. AVOID CONTACT WITH EYES AND SKIN. AVOID INHALING DUST.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS:	USE APPROPRIATE ENGINEERING CONTROL SUCH AS PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO CONTROL AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS. WHERE SUCH SYSTEMS ARE NOT EFFECTIVE WEAR SUITABLE PERSONAL PROTECTIVE EQUIPMENT, WHICH PERFORMS SATISFACTORILY AND MEETS OSHA OR OTHER RECOGNIZED STANDARDS. CONSULT WITH LOCAL PROCEDURES FOR SELECTION, TRAINING, INSPECTION AND MAINTENANCE OF THE PERSONAL PROTECTIVE EQUIPMENT.
EYES:	WEAR APPROPRIATE PROTECTIVE GLASSES OR SPLASH GOGGLES AS DESCRIBED BY 29 CFR 1910.133, OSHA EYE AND FACE PROTECTION REGULATION, OR THE EUROPEAN STANDARD EN 166.
SKIN AND CLOTHING:	WEAR APPROPRIATE PROTECTIVE GLOVES AND CLOTHING TO PREVENT SKIN EXPOSURE. CONSULT GLOVE MANUFACTURERS FOR GLOVE PERMEABILITY DATA.
RESPIRATORS:	A NIOSH APPROVED AIR-PURIFYING RESPIRATOR WITH AN APPROPRIATE CARTRIDGE OR CANISTER MAY BE PERMISSIBLE UNDER CERTAIN CIRCUMSTANCES WHERE AIRBORNE CONCENTRATIONS ARE EXPECTED TO EXCEED EXPOSURE LIMITS. PROTECTION PROVIDED BY AIR PURIFYING RESPIRATORS IS LIMITED TO AIRBORNE CONCENTRATIONS THAT ARE TYPICALLY WITHIN 10 TIMES THE EXPOSURE LIMIT. USE A POSITIVE PRESSURE AIR SUPPLIED RESPIRATOR IF THERE IS ANY POTENTIAL FOR AN UNCONTROLLED RELEASE, EXPOSURE LEVELS ARE NOT KNOWN, OR ANY OTHER CIRCUMSTANCES WHERE AIR-PURIFYING RESPIRATORS MAY NOT PROVIDE ADEQUATE PROTECTION. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHAS 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATORS USE.
OTHER PROTECTIVE:	FACILITIES STORING OR UTILIZING THIS MATERIAL SHOULD BE EQUIPPED WITH AN EYEWASH FACILITY AND A SAFETY SHOWER.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	White to off-white crystals
ODOR:	SLIGHT, CHARACTERISTIC, RATHER UNPLEASANT
VAPOR PRESSURE:	0.01 MBAR @ 88C (190.4F)
VAPOR DENSITY:	9
N-OCTANOL / WATER PARTITION CO-EFFICIENT:	+5.69
BOILING POINT:	377°C
MELTING POINT:	77-83 °C
SOLUBILITY:	279.3 UG/L @ 25C (77F)
SPECIFIC GRAVITY / DENSITY:	1.2

SECTION 10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	HIGH TEMPERATURES, FLAMES AND SPARKS.
INCOMPATIBILITY WITH OTHER MATERIALS:	OXIDIZING AGENTS. HALOGENS.
POSSIBLE DECOMPOSITION PRODUCTS:	CARBON MONOXIDE. PHOSPHORUS PENTOXIDE, PHOSPHORIC ACID.

SECTION 11. TOXICOLOGICAL INFORMATION

RTECS #:	SZ3500000
EYE EFFECT:	EYE - RABBIT: 500 MG/24H; MILD IRRITATION. (RTECS)
SKIN EFFECT:	SKIN - RABBIT LD50: >4000 MG/KG (SUPPLIER DATA)
INGESTION EFFECT:	ORAL - RAT LD50: 700 MG/KG [BEHAVIORAL - CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD] (RTECS); ORAL - RAT LD50: >6400 MG/KG (SUPPLIER DATA);

	ORAL - MOUSE LD50: 1 GM/KG [BEHAVIORAL - CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD] (RTECS)
INHALATION EFFECT:	INHALATION - RAT LC50: 1135 PPM/4H [SENSE ORGANS AND SPECIAL SENSES (EYE) - LACRIMATION LUNGS, THORAX, OR RESPIRATION - DYSPNEA NUTRITIONAL AND GROSS METABOLIC - WEIGHT LOSS OR DECREASED WEIGHT GAIN] (RTECS); INHALATION -RAT LC50: 12 MG/L/4H (SUPPLIER DATA)
CARCINOGENICITY:	ANIMAL STUDIES INDICATE TOXICITY TO THE CENTRAL NERVOUS SYSTEM FROM PROLONGED EXPOSURE; POSSIBLE SYMPTOMS: WEAKNESS, INCOORDINATION. (SUPPLIER DATA)
OTHER TOXICOLOGICAL INFORMATION:	SUBCUTANEOUS - MOUSE LD50: 3 GM/KG BEHAVIORAL - CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD; INTRAMUSCULAR - RAT LD50: 1500 MG/KG BEHAVIORAL - CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY:	EC/LC50 DAPHNIA 0.6 MG/L/48H; LC50 LEUCISCUS IDUS >10000 MG/L/96H (SUPPLIER DATA); MAY BE VERY TOXIC TO AQUATIC ORGANISMS.
BIOACCUMULATION:	EXPECTED TO SIGNIFICANTLY BIOACCUMULATE AND/OR BIOCONCENTRATE IN AQUATIC ORGANISMS. NO BCF DATA AVAILABLE.
BIODEGREDATION:	NOT READILY BIODEGRADABLE IN SOIL AND WATER, BOD OF THOD <20% AFTER 28 DAYS (SUPPLIER DATA). VAPORS ARE EXPECTED TO BE VERY SLOW TO PHOTODEGRADE IN THE ATMOSPHERE.
ENVIRONMENTAL STABILITY:	MAY CAUSE LONG TERM ADVERSE EFFECTS IN THE ENVIRONMENT.

SECTION 13. DISPOSAL CONSIDERATIONS

CONSULT WITH THE US EPA GUIDELINES LISTED IN 40 CFR PART 261.3 FOR THE CLASSIFICATIONS OF HAZARDOUS WASTE PRIOR TO DISPOSAL. FURTHERMORE, CONSULT WITH YOUR STATE AND LOCAL WASTE REQUIREMENTS OR GUIDELINES, IF APPLICABLE, TO ENSURE COMPLIANCE.

ARRANGE DISPOSAL IN ACCORDANCE TO THE EPA AND/OR STATE AND LOCAL GUIDELINES, BY A LICENSED DISPOSAL COMPANY.

SECTION 14. TRANSPORT INFORMATION

NOT DANGEROUS GOODS FOR TRANSPORTATION

SECTION 15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA:

CAS# 603-35-0 IS LISTED ON THE TSCA INVENTORY.

SECTION 12B

NONE OF THE CHEMICALS ARE LISTED UNDER TSCA SECTION 12B.

SARA CODES

CAS # 603-35-0: CHRONIC

STATE

CAS# 603-35-0 99% IS NOT PRESENT ON STATE LISTS FROM CA, PA, MN, MA, FL, OR NJ. CALIFORNIA NO SIGNIFICANT RISK LEVEL: NONE OF THE CHEMICALS IN THIS PRODUCT ARE LISTED.

RISK PHRASES:

R48/20/22 HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION AND IF SWALLOWED.

R43 MAY CAUSE SENSITIZATION BY SKIN CONTACT.

R50/53 VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG TERM ADVERSE EFFECTS IN THE ENVIRONMENT.

SAFETY PHRASES:

S22 DO NOT BREATHE DUST.

S24 AVOID CONTACT WITH SKIN.

SECTION 16. OTHER INFORMATION

MSDS LEGEND:

MW: MOLECULAR WEIGHT

MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL
HYGIENISTS

CAS: CHEMICAL ABSTRACTS SERVICE REGISTRY NUMBER

OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)

TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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