

SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 02366

NAME: Triphenylphosphine oxide

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 #: 791-28-6

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

MW: 278.3

PURITY:

SECTION 3. HAZARDS IDENTIFICATION

IRRITANT. ENVIRONMENTAL HAZARD.

TARGET ORGANS: EYES. SKIN. RESPIRATORY SYSTEM.

POTENTIAL HEALTH EFFECTS

EYE: MAY CAUSE EYE IRRITATION.

SKIN: MAY CAUSE SKIN IRRITATION.

INGESTION: NO DATA.

INHALATION: MAY CAUSE RESPIRATORY TRACT IRRITATION.

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:	180C (356F)
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 crystal powder
VAPOR PRESSURE	1 MBAR @ 50C (122F)

FLASH POINT:	180C (356F)
BOILING POINT:	358-362 °C
MELTING POINT:	152-160 °C
SOLUBILITY IN WATER:	SLIGHT @ 20C (68F)
SPECIFIC GRAVITY / DENSITY:	NO DATA.

SECTION 10. STABILITY AND REACTIVITY

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

SECTION 11. TOXICOLOGICAL INFORMATION

RTECS #:	SZ1676000
EYE EFFECT:	NO DATA REPORTED.
SKIN EFFECT:	NO DATA REPORTED.
INGESTION EFFECT:	ORAL - RAT LD50: 685 MG/KG (SUPPLIER DATA); ORAL - MOUSE LD50: 1380 MG/KG (RTECS)
INHALATION EFFECT:	NO DATA REPORTED.

SECTION 12. ECOLOGICAL INFORMATION

ECOTOXICITY:	LC50 LEUCISCUS IDUS 46-100MG/L/96H. EC50/LC50 DAPHNIA 42.7MG/L/48H. EC50/LC 50 ALGAE 20.6MG/L/96H.
BIOACCUMULATION:	NO INFORMATION PROVIDED.
BIODEGREDATION:	NO INFORMATION PROVIDED.
ENVIRONMENTAL STABILITY:	NO INFORMATION PROVIDED.

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

DOT PROPER SHIPPING NAME:	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S. (Triphenylphosphine oxide
DOT HAZARD CLASS:	9
DOT IDENTIFICATION NO:	UN3077
DOT PACKING GROUP:	III
DOT LABEL TYPE:	MISCELLANEOUS.

SECTION 15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS:

TSCA:

CAS# 791-28-6 IS LISTED ON THE TSCA INVENTORY.

SECTION 12B

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

SARA CODES

CAS # 791-28-6: CHRONIC

STATE

CAS# 791-28-6 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:

R22 HARMFUL IF SWALLOWED.

R36/37/38 IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

R52/53 HARMFUL TO AQUATIC ORGANISMS, MAY CAUSE LONG TERM

ADVERSE EFFECTS IN THE ENVIRONMENT.

SAFETY PHRASES:

S26 IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S36/37/39 WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

S61 AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/SAFETY DATA SHEETS.

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:

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall **CII** be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if **CII** has been advised of the possibility of such damages.*