

Chem-Impex International Inc.

Tel: (630) 766-2112

E-mail: sales@chemimpex.com

Shipping and Correspondence:

935 Dillon Drive

Wood Dale, IL 60191 USA

Fax: (630) 766-2218

Web site: www.chemimpex.com

Manufacturing site:

825 Dillon Drive

Wood Dale, IL 60191 USA

SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #:	47563
NAME:	Ethylbenzene
SYNONYMS:	
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. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

FLAMMABLE LIQUIDS (CATEGORY 2), H225

ACUTE TOXICITY, INHALATION (CATEGORY 4), H332

CARCINOGENICITY (CATEGORY 2), H351

SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (CATEGORY 2),
HEARING ORGANS, H373
ASPIRATION HAZARD (CATEGORY 1), H304
SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 2), H401
LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 3), H412

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS
PICTOGRAM**



SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H225	HIGHLY FLAMMABLE LIQUID AND VAPOR.
H304	MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
H332	HARMFUL IF INHALED.
H351	SUSPECTED OF CAUSING CANCER.
H373	MAY CAUSE DAMAGE TO ORGANS (HEARING ORGANS) THROUGH PROLONGED OR REPEATED EXPOSURE.
H401	TOXIC TO AQUATIC LIFE.
H412	HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

PRECAUTIONARY STATEMENT(S)

P201	OBTAIN SPECIAL INSTRUCTIONS BEFORE USE.
P202	DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD.
P210	KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING.
P233	KEEP CONTAINER TIGHTLY CLOSED.
P240	GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT.
P241	USE EXPLOSION-PROOF ELECTRICAL/ VENTILATING/ LIGHTING EQUIPMENT.
P242	USE ONLY NON-SPARKING TOOLS.
P243	TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE.
P260	DO NOT BREATHE DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY.
P271	USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA.
P273	AVOID RELEASE TO THE ENVIRONMENT.
P280	WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION.
P301 + P310	IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER/DOCTOR.
P303 + P361 + P353	IF ON SKIN (OR HAIR): TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER.
P304 + P340 + P312	IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL.
P308 + P313	IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION.
P331	DO NOT INDUCE VOMITING.
P370 + P378	IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM TO EXTINGUISH.
P403 + P235	STORE IN A WELL-VENTILATED PLACE. KEEP COOL.

P405 STORE LOCKED UP.
P501 DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED
WASTE DISPOSAL PLANT.

**HAZARDS NOT
OTHERWISE
CLASSIFIED (HNOC)
OR NOT COVERED
BY GHS** NONE

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF: C₈H₁₀
MW: 106.17
CAS-NO. 100-41-4
PURITY: ≥ 99% (GC)

HAZARDOUS COMPONENTS

COMPONENT	CLASSIFICATION	CONCENTRATION
Ethylbenzene	FLAM. LIQ. 2; ACUTE TOX. 4; CARC. 2; STOT RE 2; ASP. TOX. 1; AQUATIC ACUTE 2; AQUATIC CHRONIC 3; H225, H332, H351, H373, H304, H401, H412	≤ 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

SECTION 4. FIRST-AID MEASURES

DESCRIPTION OF FIRST AID MEASURES

GENERAL ADVICE MOVE OUT OF DANGEROUS AREA.

IF INHALED IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

IN CASE OF SKIN CONTACT WASH OFF WITH SOAP AND PLENTY OF WATER.

IN CASE OF EYE CONTACT FLUSH EYES WITH WATER AS A PRECAUTION.

IF SWALLOWED	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER.
MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	NO DATA AVAILABLE

SECTION 5. FIRE AND EXPLOSION DATA

EXTINGUISHING MEDIA

SUITABLE EXTINGUISHING MEDIA	SUITABLE EXTINGUISHING MEDIA WATER CARBON DIOXIDE (CO ₂) FOAM DRY POWDER
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UNSUITABLE EXTINGUISHING MEDIA
FOR THIS SUBSTANCE/MIXTURE NO LIMITATIONS OF
EXTINGUISHING AGENTS ARE GIVEN.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE	CARBON OXIDES COMBUSTIBLE LIQUID.
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ADVICE FOR FIREFIGHTERS	NO DATA AVAILABLE
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FURTHER INFORMATION	NO DATA AVAILABLE
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SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES	FOR PERSONAL PROTECTION SEE SECTION 8.
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ENVIRONMENTAL PRECAUTIONS	NO DATA AVAILABLE
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METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

CONTAIN SPILLAGE, SOAK UP WITH NON-COMBUSTIBLE ABSORBENT MATERIAL, (E.G. SAND, EARTH, DIATOMACEOUS EARTH, VERMICULITE) AND TRANSFER TO A CONTAINER FOR DISPOSAL ACCORDING TO LOCAL / NATIONAL REGULATIONS (SEE SECTION 13).

REFERENCE TO OTHER SECTIONS

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

HYGROSCOPIC
STORAGE CLASS (TRGS 510): 3: FLAMMABLE LIQUIDS

Store at 2 - 8 °C

SPECIFIC END USE(S)

APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

COMPONENT	CAS-NO.	VALUE	CONTROL PARAMETERS	BASIS
Ethylbenzene	100-41-4	TWA	100 PPM 435 MG/M3	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
		ST	125 PPM 545 MG/M3	USA. NIOSH RECOMMENDED EXPOSURE LIMITS
		TWA	100 PPM 435 MG/M3	USA. OCCUPATIONAL EXPOSURE LIMITS (OSHA) - TABLE Z-1 LIMITS FOR AIR CONTAMINANTS
		STEL	30 PPM 130 MG/M3	CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS

		PEL	5 PPM 22 MG/M3	CALIFORNIA PERMISSIBLE EXPOSURE LIMITS FOR CHEMICAL CONTAMINANTS
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BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS

COMPONENT	CAS-NO.	PARAMETERS	VALUE	BIOLOGICAL SPECIMEN	BASIS
Ethylbenzene	100-41-4	SUM OF MANDELIC ACID AND PHENYL GLYOXYLIC ACID	0.15G/G CREATININE	URINE	ACGIH - BIOLOGICAL EXPOSURE INDICES (BEI)
	REMARKS	END OF SHIFT (AS SOON AS POSSIBLE AFTER EXPOSURE CEASES)			

EXPOSURE CONTROLS

APPROPRIATE ENGINEERING CONTROLS GENERAL INDUSTRIAL HYGIENE PRACTICE.

PERSONAL PROTECTIVE EQUIPMENT

EYE/FACE PROTECTION USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

SKIN PROTECTION HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.

BODY PROTECTION IMPERVIOUS CLOTHING, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORY PROTECTION REQUIRED WHEN VAPOURS/AEROSOLS ARE GENERATED. OUR RECOMMENDATIONS ON FILTERING RESPIRATORY PROTECTION ARE BASED ON THE FOLLOWING STANDARDS: DIN EN 143, DIN 14387 AND OTHER ACCOMPANYING STANDARDS RELATING TO THE USED RESPIRATORY PROTECTION SYSTEM.

CONTROL OF ENVIRONMENTAL EXPOSURE PREVENT PRODUCT FROM ENTERING DRAINS.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colorless clear liquid
ODOUR	AROMATIC
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	
INITIAL BOILING POINT AND BOILING RANGE	136 °C
FLASH POINT	22 °C
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	UPPER EXPLOSION LIMIT: 6.7 %(V) LOWER EXPLOSION LIMIT: 1 %(V)
VAPOUR PRESSURE	9.52 HPA AT 20 C - OECD TEST GUIDELINE 104
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	0.87
WATER SOLUBILITY	0.2 G/L AT 25 C (77 F) - REGULATION (EC) NO. 440/2008, ANNEX, A.6 - SLIGHTLY SOLUBLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	POW: 4,170; LOG POW: 3.6 AT 20 C - REGULATION (EC) NO. 440/2008, ANNEX, A.8
AUTO-IGNITION TEMPERATURE	430 C AT 1,013 HPA
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	0.773 MM ² /S AT 20 C - OECD TEST GUIDELINE 114
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	NO DATA AVAILABLE

OTHER SAFETY INFORMATION

SURFACE TENSION	71.2 MN/M AT 23 C
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SECTION 10. STABILITY AND REACTIVITY

REACTIVITY	NO DATA AVAILABLE
CHEMICAL STABILITY	NO DATA AVAILABLE
POSSIBILITY OF HAZARDOUS REACTIONS	NO DATA AVAILABLE
CONDITIONS TO AVOID	NO DATA AVAILABLE

**INCOMPATIBLE
MATERIALS**

STRONG OXIDIZING AGENTS

**HAZARDOUS
DECOMPOSITION
PRODUCTS**

IN THE EVENT OF FIRE: SEE SECTION 5

SECTION 11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY

LD50 ORAL - RAT - MALE AND FEMALE - 3,500 MG/KG
REMARKS: (ECHA)

LC50 INHALATION - RAT - MALE - 4 H - 17.8 MG/L -
VAPOR
REMARKS: (ECHA)

LD50 DERMAL - RABBIT - 15,433 MG/KG
REMARKS: (RTECS)

NO DATA AVAILABLE

**SKIN
CORROSION/IRRITATION**

SKIN - RABBIT
RESULT: MODERATE SKIN IRRITATION - 24 H

**SERIOUS EYE
DAMAGE/EYE IRRITATION**

EYES - RABBIT
RESULT: MILD EYE IRRITATION
REMARKS: (ECHA)

**RESPIRATORY OR SKIN
SENSITISATION**

PATCH TEST: - HUMAN
RESULT: NEGATIVE
REMARKS: (IUCLID)

**GERM CELL
MUTAGENICITY**

TEST TYPE: MUTAGENICITY (MAMMAL CELL TEST):
TEST SYSTEM: MOUSE LYMPHOMA TEST
METABOLIC ACTIVATION: WITH AND WITHOUT
METABOLIC ACTIVATION

METHOD: OECD TEST GUIDELINE 476

RESULT: NEGATIVE

TEST TYPE: AMES TEST

TEST SYSTEM: SALMONELLA TYPHIMURIUM

METABOLIC ACTIVATION: WITH AND WITHOUT
METABOLIC ACTIVATION

METHOD: OECD TEST GUIDELINE 471

RESULT: NEGATIVE

TEST TYPE: HAMSTER

TEST SYSTEM: OVARY

METABOLIC ACTIVATION: WITH AND WITHOUT
METABOLIC ACTIVATION

METHOD: OECD TEST GUIDELINE 473

RESULT: NEGATIVE

TEST TYPE: MUTAGENICITY (IN VIVO MAMMALIAN
BONE-MARROW CYTOGENETIC TEST, CHROMOSOMAL
ANALYSIS)

SPECIES: MOUSE

APPLICATION ROUTE: INHALATION

METHOD: OECD TEST GUIDELINE 474

RESULT: NEGATIVE

CARCINOGENICITY

IARC:

2B - GROUP 2B: POSSIBLY CARCINOGENIC TO HUMANS
NO COMPONENT OF THIS PRODUCT PRESENT AT
LEVELS GREATER THAN OR EQUAL TO 0.1% IS
IDENTIFIED AS A KNOWN OR ANTICIPATED
CARCINOGEN BY NTP.

NTP:

OSHA:

NO COMPONENT OF THIS PRODUCT PRESENT AT
LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON
OSHA S LIST OF REGULATED CARCINOGENS.

REPRODUCTIVE TOXICITY

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN
TOXICITY - SINGLE
EXPOSURE**

NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN
TOXICITY - REPEATED
EXPOSURE**

MAY CAUSE DAMAGE TO ORGANS THROUGH
PROLONGED OR REPEATED EXPOSURE.
- HEARING ORGANS

ASPIRATION HAZARD

MAY BE FATAL IF SWALLOWED AND ENTERS
AIRWAYS.

**ADDITIONAL
INFORMATION**

REPEATED DOSE TOXICITY - RAT - MALE AND FEMALE
- ORAL - 90 D - NOAEL (NO OBSERVED ADVERSE
EFFECT LEVEL) - 75 MG/KG - LOAEL (LOWEST
OBSERVED ADVERSE EFFECT LEVEL) - 250 MG/KG

RTECS: DA0700000

CENTRAL NERVOUS SYSTEM DEPRESSION, NAUSEA,
HEADACHE, VOMITING, ATAXIA, TREMORS
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL,
PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE
NOT BEEN THOROUGHLY INVESTIGATED.

SYSTEMIC EFFECTS:

CNS DISORDERS
TIREDNESS
DROWSINESS
DIZZINESS
CONVULSIONS
HEADACHE
NARCOSIS

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL
HYGIENE AND SAFETY PRACTICE.

STOMACH - IRREGULARITIES - BASED ON HUMAN
EVIDENCE

SECTION 12. ECOLOGICAL INFORMATION

TOXICITY

TOXICITY TO FISH	SEMI-STATIC TEST LC50 - ONCORHYNCHUS MYKISS (RAINBOW TROUT) - 4.2 MG/L - 96 H (OECD TEST GUIDELINE 203)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES	STATIC TEST EC50 - DAPHNIA MAGNA (WATER FLEA) - 1.8 - 2.4 MG/L 48 H (US-EPA)
TOXICITY TO ALGAE	STATIC TEST EC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA (GREEN ALGAE) - 3.6 MG/L - 96 H (US-EPA)
TOXICITY TO BACTERIA	EC50 - PHOTOBACTERIUM PHOSPHOREUM - 9.68 MG/L - 30 MIN REMARKS: (IUCLID)
TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES(CHRONIC TOXICITY)	SEMI-STATIC TEST NOEC - CERIODAPHNIA DUBIA (WATER FLEA) - 0.96 MG/L - 7 D (US-EPA)

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY AEROBIC - EXPOSURE TIME 28 D
RESULT: CA.79 % - READILY BIODEGRADABLE.
(ISO 14593)

**BIOACCUMULATIVE
POTENTIAL** DUE TO THE DISTRIBUTION COEFFICIENT N-
OCTANOL/WATER, ACCUMULATION IN ORGANISMS IS
NOT EXPECTED.

MOBILITY IN SOIL NO DATA AVAILABLE

**RESULTS OF PBT AND VPVB
ASSESSMENT** PBT/VPVB ASSESSMENT NOT AVAILABLE AS
CHEMICAL SAFETY ASSESSMENT NOT
REQUIRED/NOT CONDUCTED

OTHER ADVERSE EFFECTS NO DATA AVAILABLE

SECTION 13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

PRODUCT OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO
A LICENSED DISPOSAL COMPANY. CONTACT A
LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE
TO DISPOSE OF THIS MATERIAL.

**CONTAMINATED
PACKAGING** DISPOSE OF AS UNUSED PRODUCT.

SECTION 14. TRANSPORT INFORMATION

DOT (US)

PROPER SHIPPING NAME: ETHYLBENZENE
UN NUMBER: 1175
CLASS: 3
PACKING GROUP: II
REPORTABLE QUANTITY
(RQ): 1000 LBS
POISON INHALATION HAZARD: NO

IMDG

PROPER SHIPPING NAME: ETHYLBENZENE
UN NUMBER: 1175
CLASS: 3
PACKING GROUP: II
EMS-NO: F-E, S-D

IATA
PROPER SHIPPING NAME: ETHYLBENZENE
UN NUMBER: 1175
CLASS: 3
PACKING GROUP: II

SECTION 15. REGULATORY INFORMATION

SARA 302 COMPONENTS THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

SARA 313 COMPONENTS
THE FOLLOWING COMPONENTS ARE SUBJECT TO REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313:

	CAS-NO.	REVISION DATE
Ethylbenzene	100-41-4	07-01-2007

SARA 311/312 HAZARDS FIRE HAZARD, CHRONIC HEALTH HAZARD

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
Ethylbenzene	100-41-4	07-01-2007

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

	CAS-NO.	REVISION DATE
Ethylbenzene	100-41-4	07-01-2007

CALIFORNIA PROP. 65 COMPONENTS

WHICH IS/ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

	CAS-NO.	REVISION DATE
Ethylbenzene	100-41-4	09-28-2007

SECTION 16. OTHER INFORMATION

FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.

H225 HIGHLY FLAMMABLE LIQUID AND VAPOR.
H304 MAY BE FATAL IF SWALLOWED AND ENTERS AIRWAYS.
H332 HARMFUL IF INHALED.
H351 SUSPECTED OF CAUSING CANCER.
H373 MAY CAUSE DAMAGE TO ORGANS (HEARING ORGANS) THROUGH PROLONGED OR REPEATED EXPOSURE.
H401 TOXIC TO AQUATIC LIFE.
H412 HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

MSDS LEGEND

MW: MOLECULAR WEIGHT

MF: MOLECULAR FORMULA
VOC: VOLATILE ORGANIC COMPOUNDS
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL
HYGINISTS
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)
TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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