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# SAFETY DATA SHEET

# SECTION 1. CHEMICAL IDENTIFICATION

CATALOG #: 34850

NAME: 1-Propanol

SYNONYMS: Propyl alcohol

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 SERIOUS EYE DAMAGE (CATEGORY 1), H318 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (CATEGORY 3), CENTRAL NERVOUS SYSTEM, H336 FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

### GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS

PICTOGRAM

SIGNAL WORD DANGER

HAZARD STATEMENT(S)

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

H318 CAUSES SERIOUS EYE DAMAGE.

H336 MAY CAUSE DROWSINESS OR DIZZINESS.

PRECAUTIONARY STATEMENT(S)

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.

P261 AVOID BREATHING DUST/ FUME/ GAS/ MIST/ VAPOURS/

SPRAY.

P271 USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA

P280 WEAR PROTECTIVE GLOVES/ EYE PROTECTION/ FACE

PROTECTION.

P303 + P361 + P353 IF ON SKIN (OR HAIR): REMOVE/ TAKE OFF IMMEDIATELY

ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/

SHOWER.

P304 + P340 + P312 IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT

REST IN A POSITION COMFORTABLE FOR BREATHING. CALL A POISON CENTER OR DOCTOR/ PHYSICIAN IF YOU FEEL

UNWELL.

P305 + P351 + P338 + IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL

P310 MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND

EASY TO DO. CONTINUE RINSING. IMMEDIATELY CALL A

POISON CENTER/DOCTOR.

P370 + P378 IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR

ALCOHOL-RESISTANT FOAM FOR EXTINCTION.

P403 + P233 STORE IN A WELL-VENTILATED PLACE. KEEP CONTAINER

TIGHTLY CLOSED.

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 NONE

**OTHERWISE** 

CLASSIFIED (HNOC) OR NOT COVERED

BY GHS

### SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

MF:  $C_3H_8O$ 

MW: 60.10

CAS-NO. 71-23-8

PURITY: 99 - 100% (GC)

#### **HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
1-Propanol		
	FLAM. LIQ. 2; EYE DAM. 1;	<= 100 %
	STOT SE 3; H225, H318, H336	

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** CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA

SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT

OF DANGEROUS AREA.

IF INHALED IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF

NOT BREATHING, GIVE ARTIFICIAL RESPIRATION.

CONSULT A PHYSICIAN.

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

**CONTACT** CONSULT A PHYSICIAN.

IN CASE OF EYE RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT

LEAST 15 MINUTES AND CONSULT A PHYSICIAN. **CONTACT** 

IF SWALLOWED DO NOT INDUCE VOMITING. NEVER GIVE ANYTHING

BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE

MOUTH WITH WATER. CONSULT A PHYSICIAN.

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 USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY

**EXTINGUISHING MEDIA** CHEMICAL OR CARBON DIOXIDE.

SPECIAL HAZARDS CARBON OXIDES ARISING FROM THE

SUBSTANCE OR MIXTURE

**ADVICE FOR** WEAR SELF CONTAINED BREATHING APPARATUS FOR

**FIREFIGHTERS** FIRE FIGHTING IF NECESSARY.

FURTHER INFORMATION USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

# SECTION 6. ACCIDENTAL RELEASE MEASURES

PERSONALUSE PERSONAL PROTECTIVE EQUIPMENT. AVOIDPRECAUTIONS,BREATHING VAPOURS, MIST OR GAS. ENSUREPROTECTIVEADEQUATE VENTILATION. REMOVE ALL SOURCES OF

EQUIPMENT AND
IGNITION. EVACUATE PERSONNEL TO SAFE AREAS.
EMERGENCY
BEWARE OF VAPOURS ACCUMULATING TO FORM
EXPLOSIVE CONCENTRATIONS. VAPOURS CAN

ACCUMULATE IN LOW AREAS.

FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL** PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

METHODS AND CONTAIN SPILLAGE, AND THEN COLLECT WITH AN MATERIALS FOR ELECTRICALLY PROTECTED VACUUM CLEANER OR BY

CONTAINMENT AND WET-BRUSHING AND PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS (SEE

SECTION 13).

**REFERENCE TO OTHER** FOR DISPOSAL SEE SECTION 13.

SECTIONS

# **SECTION 7. HANDLING AND STORAGE**

**PRECAUTIONS FOR SAFE** AVOID INHALATION OF VAPOUR OR MIST.

**HANDLING** USE EXPLOSION-PROOF EQUIPMENT.KEEP AWAY FROM

SOURCES OF IGNITION - NO SMOKING.TAKE MEASURES TO PREVENT THE BUILD UP OF

ELECTROSTATIC CHARGE.

FOR PRECAUTIONS SEE SECTION 2.2.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE. CONTAINERS WHICH ARE OPENED MUST BE CAREFULLY RESEALED AND KEPT

UPRIGHT TO PREVENT LEAKAGE.

Store at RT

**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	BASIS
			PARAMETERS	
1-Propanol	71-23-8	TWA	100 PPM	USA. ACGIH THRESHOLD
				LIMIT VALUES (TLV)
	REMARKS	UPPER RESPIRATORY TRACT IRRITATION		
		EYE IRRITATION		
		NOT CLASSIFIABLE AS A HUMAN CARCINOGEN		
		TWA	100.000000 PPM	USA. ACGIH THRESHOLD
				LIMIT VALUES (TLV)
		UPPER RESPIRATORY TRACT IRRITATION		
		EYE IRRITATION NOT CLASSIFIABLE AS A HUMAN CARCINOGEN		
		TWA		USA. OCCUPATIONAL
			500.000000	EXPOSURE LIMITS (OSHA) -
			MG/M3	TABLE Z-1 LIMITS FOR AIR
				CONTAMINANTS
		THE VALUE IN MG/M3 IS APPROXIMATE.		
		TWA	200.000000 PPM	
			500.000000	RECOMMENDED EXPOSURE
			MG/M3	LIMITS
		POTENTIAL FOR DERMAL ABSORPTION		
		ST	250.000000 PPM	
			625.000000	RECOMMENDED EXPOSURE
			MG/M3	LIMITS

# POTENTIAL FOR DERMAL ABSORPTION

#### **EXPOSURE CONTROLS**

APPROPRIATE

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL **ENGINEERING CONTROLS** HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.

#### PERSONAL PROTECTIVE EQUIPMENT

**EYE/FACE PROTECTION** 

TIGHTLY FITTING SAFETY GOGGLES. FACESHIELD (8-INCH MINIMUM). 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.

FULL CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.4 MM **BREAK THROUGH TIME: 480 MIN** 

MATERIAL TESTED: CAMATRIL (KCL 730, SIZE M)

SPLASH CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.2 MM

BREAK THROUGH TIME: 72 MIN

MATERIAL TESTED: DERMATRIL P (KCL 743, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIA SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.

**BODY PROTECTION** 

COMPLETE SUIT PROTECTING AGAINST CHEMICALS, FLAME RETARDANT ANTISTATIC PROTECTIVE CLOTHING. THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

**RESPIRATORY** WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING **PROTECTION** RESPIRATORS ARE APPROPRIATE USE (US) OR TYPE

ABEK (EN 14387) RESPIRATOR CARTRIDGES AS A
BACKUP TO ENGINEE PROTECTION, USE A FULL-FACE
SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND
COMPONENTS TESTED AND APPROVED UNDER
APPROPRIATE GOVERNMENT STANDARDS SUCH AS

NIOSH (US) OR CEN (EU).

CONTROL OF

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS.

ENVIRONMENTAL

**EXPOSURE** 

#### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE Colorless liquid
ODOUR ALCOHOL-LIKE
ODOUR THRESHOLD NO DATA AVAILABLE
PH 8.5 AT 200 G/L AT 20 C

**MELTING** 

POINT/FREEZING POINT

INITIAL BOILING POINT 97 - 98 °C

AND BOILING RANGE

FLASH POINT 15 °C EVAPORATION RATE 1

FLAMMABILITY (SOLID, NO DATA AVAILABLE

GAS)

UPPER/LOWER UPPER EXPLOSION LIMIT: 13.7 %(V) FLAMMABILITY OR LOWER EXPLOSION LIMIT: 2.1 %(V)

EXPLOSIVE LIMITS

VAPOUR PRESSURE 19.3 HPA AT 20 C VAPOUR DENSITY 2.07 - (AIR = 1.0)

RELATIVE DENSITY

WATER SOLUBILITY COMPLETELY MISCIBLE PARTITION COEFFICIENT: LOG POW: 0.25 - 0.34

N- OCTANOL/WATER

AUTO-IGNITION 400 C

TEMPERATURE

DECOMPOSITION NO DATA AVAILABLE

**TEMPERATURE** 

VISCOSITY NO DATA AVAILABLE EXPLOSIVE PROPERTIES NO DATA AVAILABLE

OXIDIZING PROPERTIES THE SUBSTANCE OR MIXTURE IS NOT CLASSIFIED AS

OXIDIZING.

#### OTHER SAFETY INFORMATION

SURFACE TENSION 23.45 MN/M AT 20 C RELATIVE VAPOUR 2.07 - (AIR = 1.0)

DENSITY

#### SECTION 10. STABILITY AND REACTIVITY

**REACTIVITY** NO DATA AVAILABLE

CHEMICAL STABILITY STABLE UNDER RECOMMENDED STORAGE

CONDITIONS.

POSSIBILITY OF HAZARDOUS REACTIONS VAPOURS MAY FORM EXPLOSIVE MIXTURE WITH AIR.

**CONDITIONS TO AVOID** HEAT, FLAMES AND SPARKS

INCOMPATIBLE MATERIALS

STRONG OXIDIZING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS. - CARBON OXIDES OTHER DECOMPOSITION PRODUCTS - NO DATA

AVAILABLE

IN THE EVENT OF FIRE: SEE SECTION 5

#### SECTION 11. TOXICOLOGICAL INFORMATION

#### INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY LD50 ORAL - RAT - 8,038 MG/KG

LC50 INHALATION - RAT - 1 H - 20000 PPM

LC50 DERMAL - RABBIT - 4,000 MG/KG

NO DATA AVAILABLE

SKIN - RABBIT

**CORROSION/IRRITATION** RESULT: NO SKIN IRRITATION

SERIOUS EYE EYES - RABBIT

**DAMAGE/EYE IRRITATION** RESULT: SEVERE EYE IRRITATION

RESPIRATORY OR SKIN

IN MAXIMISATION TEST - GUINEA PIG

SENSITISATION

RESULT: DID NOT CAUSE SENSITISATION ON

LABORATORY ANIMALS.

GERM CELL MUTAGENICITY NO DATA AVAILABLE

**CARCINOGENICITY** 

IARC: NO COMPONENT OF THIS PRODUCT PRESENT AT

> LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.

NO COMPONENT OF THIS PRODUCT PRESENT AT NTP:

> LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED

CARCINOGEN BY NTP.

NO COMPONENT OF THIS PRODUCT PRESENT AT OSHA:

> LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A CARCINOGEN OR POTENTIAL

CARCINOGEN BY OSHA.

REPRODUCTIVE TOXICITY NO DATA AVAILABLE

SPECIFIC TARGET ORGAN

**TOXICITY - SINGLE** 

**EXPOSURE** 

MAY CAUSE DROWSINESS OR DIZZINESS.

**SPECIFIC TARGET ORGAN** 

**TOXICITY - REPEATED** 

**EXPOSURE** 

NO DATA AVAILABLE

ASPIRATION HAZARD NO DATA AVAILABLE

ADDITIONAL INFORMATION

RTECS: UH8225000

CENTRAL NERVOUS SYSTEM DEPRESSION, PROLONGED OR REPEATED EXPOSURE

CAN CAUSE: NARCOSIS, SKIN IRRITATION

STOMACH - IRREGULARITIES - BASED ON HUMAN EVIDENCE

#### SECTION 12. **ECOLOGICAL INFORMATION**

**TOXICITY** 

TOXICITY TO FISH LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW)

- 4,555 MG/L - 96 H

TOXICITY TO DAPHNIA AND EC50 - DAPHNIA MAGNA (WATER FLEA) - 3,642 MG/L -

OTHER AQUATIC

48 H

**INVERTEBRATES** 

(DIN 38412)

TOXICITY TO ALGAE

EC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA

(GREEN ALGAE) - 9,170 MG/L - 48 H

PERSISTENCE AND DEGRADABILITY

BIODEGRADABILITY RESULT: 75 % - READILY BIODEGRADABLE. RATIO BOD/THBOD < 2 %

**BIOACCUMULATIVE** 

**POTENTIAL** 

THE PRODUCT IS MISCIBLE IN WATER AND READILY

BIODEGRADABLE IN BOTH WATER AND SOIL.

ACCUMULATION IS NOT EXPECTED.

MOBILITY IN SOIL NO DATA AVAILABLE

 ${\bf RESULTS~OF~PBT~AND}$ 

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 BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH

AN AFTERBURNER AND SCRUBBER B HIGHLY

FLAMMABLE. OFFER SURPLUS AND NONRECYCLABLE 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: n-Propanol UN NUMBER: 1274
CLASS: 3
PACKING GROUP: II
POISON INHALATION NO

HAZARD:

**IMDG** 

PROPER SHIPPING NAME: n-Propanol UN NUMBER: 1274 CLASS: 3 PACKING GROUP: II

EMS-NO: F-E, S-D

**IATA** 

PROPER SHIPPING NAME: n-Propanol UN NUMBER: 1274 CLASS: 3 PACKING GROUP: II

#### SECTION 15. REGULATORY INFORMATION

**SARA 302 COMPONENTS** NO CHEMICALS IN THIS MATERIAL ARE SUBJECT TO

THE REPORTING REQUIREMENTS OF SARA TITLE III,

SECTION 302.

SARA 313 COMPONENTS THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL

COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313

SARA 311/312 HAZARDS FIRE HAZARD, ACUTE HEALTH HAZARD, CHRONIC

**HEALTH HAZARD** 

MASSACHUSETTS RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

1-Propanol 71-23-8 04-24-1993

PENNSYLVANIA RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

1-Propanol 71-23-8 04-24-1993

NEW JERSEY RIGHT TO KNOW COMPONENTS

CAS-NO. REVISION DATE

1-Propanol 71-23-8 04-24-1993

#### **CALIFORNIA PROP. 65 COMPONENTS**

THIS PRODUCT DOES NOT CONTAIN ANY CHEMICALS KNOWN TO STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR ANY OTHER REPRODUCTIVE HARM.

# SECTION 16. OTHER INFORMATION

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

H225 HIGHLY FLAMMABLE LIQUID AND VAPOUR.

H318 CAUSES SERIOUS EYE DAMAGE.

H336 MAY CAUSE DROWSINESS OR DIZZINESS.

#### **HMIS RATING**

HEALTH HAZARD: 2 CHRONIC HEALTH \*

HAZARD:

FLAMMABILITY: 3

PHYSICAL HAZARD 0

NFPA RATING

HEALTH HAZARD: 2 FIRE HAZARD: 3 REACTIVITY HAZARD: 0

MSDS LEGEND

MW: MOLECULAR WEIGHT MF: MOLECULAR FORMULA

VOC: VOLATILE ORGANIC COMPOUNDS

ACGIH: AMERICAN CONFERENCE OF GOVERNMENENTAL

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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