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SAFETY DATA SHEET

SECTION 1. CHEMICAL IDENTIFICATION

| | |
|---------------------------------|--|
| CATALOG #: | 36478 |
| NAME: | Heptadecafluorooctanesulfonic acid tetraethylammonium salt |
| SYNONYMS: | Perfluorooctanesulfonic acid tetraethylammonium salt |
| 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)

ACUTE TOXICITY, ORAL (CATEGORY 3), H301

ACUTE TOXICITY, INHALATION (CATEGORY 4), H332

CARCINOGENICITY (CATEGORY 2), H351

REPRODUCTIVE TOXICITY (CATEGORY 1B), H360

EFFECTS ON OR VIA LACTATION, H362
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE (CATEGORY 1), H372

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)

| | |
|------|---|
| H301 | TOXIC IF SWALLOWED. |
| H332 | HARMFUL IF INHALED. |
| H351 | SUSPECTED OF CAUSING CANCER. |
| H360 | MAY DAMAGE FERTILITY OR THE UNBORN CHILD. |
| H362 | MAY CAUSE HARM TO BREAST-FED CHILDREN. |
| H372 | CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. |

PRECAUTIONARY STATEMENT(S)

| | |
|--------------------|--|
| P201 | OBTAIN SPECIAL INSTRUCTIONS BEFORE USE. |
| P202 | DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD. |
| P260 | DO NOT BREATHE DUST/ FUME/ GAS/ MIST/ VAPOURS/ SPRAY. |
| P263 | AVOID CONTACT DURING PREGNANCY/ WHILE NURSING. |
| P264 | WASH SKIN THOROUGHLY AFTER HANDLING. |
| P270 | DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT. |
| P271 | USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA. |
| P281 | USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED. |
| P301 + P310 + P330 | IF SWALLOWED: IMMEDIATELY CALL A POISON CENTER/DOCTOR. RINSE MOUTH. |
| 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. |
| P308 + P313 | IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ ATTENTION. |
| 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: C₁₆H₂₀F₁₇NO₃S

MW: 629.37

CAS-NO. 56773-42-3

HAZARDOUS COMPONENTS

| COMPONENT | CLASSIFICATION | CONCENTRATION |
|---|---|---------------|
| Heptadecafluorooctanesulfonic acid tetraethylammonium salt | | |
| | ACUTE TOX. 3; ACUTE TOX. 4; CARC. 2; REPR. 1B; LACT. ; STOT RE 1; H301, H332, H351, H360, H362, H372 | <= 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 | 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 CONTACT | WASH OFF WITH SOAP AND PLENTY OF WATER. TAKE VICTIM IMMEDIATELY TO HOSPITAL. CONSULT A PHYSICIAN. |
| 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. 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
EXTINGUISHING MEDIA**

USE WATER SPRAY, ALCOHOL-RESISTANT FOAM, DRY
CHEMICAL OR CARBON DIOXIDE.

**SPECIAL HAZARDS
ARISING FROM THE
SUBSTANCE OR MIXTURE**

CARBON OXIDES, NITROGEN OXIDES (NOX), SULPHUR
OXIDES, HYDROGEN FLUORIDE
COMBUSTIBLE.

**ADVICE FOR
FIREFIGHTERS**

WEAR SELF-CONTAINED BREATHING APPARATUS FOR
FIREFIGHTING IF NECESSARY.

FURTHER INFORMATION

NO DATA AVAILABLE

SECTION 6. ACCIDENTAL RELEASE MEASURES

**PERSONAL
PRECAUTIONS,
PROTECTIVE EQUIPMENT
AND EMERGENCY
PROCEDURES**

WEAR RESPIRATORY PROTECTION. AVOID DUST
FORMATION. AVOID BREATHING VAPOURS, MIST OR
GAS. ENSURE ADEQUATE VENTILATION. EVACUATE
PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST.
FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL
PRECAUTIONS**

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

**METHODS AND
MATERIALS FOR
CONTAINMENT AND
CLEANING UP**

PICK UP AND ARRANGE DISPOSAL WITHOUT
CREATING DUST. SWEEP UP AND SHOVEL. KEEP IN
SUITABLE, CLOSED CONTAINERS FOR DISPOSAL.

**REFERENCE TO OTHER
SECTIONS**

FOR DISPOSAL SEE SECTION 13.

SECTION 7. HANDLING AND STORAGE

| | |
|---|---|
| PRECAUTIONS FOR SAFE HANDLING | <p>AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS.FURTHER PROCESSING OF SOLID MATERIALS MAY RESULT IN THE FORMATION OF COMBUSTIBLE DUSTS. THE POTENTIAL FOR COMBUSTIBLE DUST FORMATION SHOULD BE TAKEN INTO CONSIDERATION BEFORE ADDITIONAL PROCESSING OCCURS.</p> <p>PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.</p> <p>FOR PRECAUTIONS SEE SECTION 2.2.</p> |
| CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES | <p>KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.</p> <p>HYGROSCOPIC. KEEP IN A DRY PLACE.</p> <p>Store at RT</p> |
| SPECIFIC END USE(S) | <p>APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED</p> |

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

| | |
|---|---|
| COMPONENTS WITH WORKPLACE CONTROL PARAMETERS | CONTAINS NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES. |
|---|---|

EXPOSURE CONTROLS

| | |
|---|--|
| APPROPRIATE ENGINEERING CONTROLS | <p>AVOID CONTACT WITH SKIN, EYES AND CLOTHING.</p> <p>WASH HANDS BEFORE BREAKS AND IMMEDIATELY AFTER HANDLING THE PRODUCT.</p> |
|---|--|

PERSONAL PROTECTIVE EQUIPMENT

| | |
|----------------------------|---|
| EYE/FACE PROTECTION | <p>FACE SHIELD AND SAFETY GLASSES USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).</p> |
|----------------------------|---|

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: 0.11 MM

BREAK THROUGH TIME: 480 MIN

MATERIAL TESTED:DERMATRIL (KCL 740, SIZE M)

SPLASH CONTACT

MATERIAL: NITRILE RUBBER

MINIMUM LAYER THICKNESS: 0.11 MM

BREAK THROUGH TIME: 480 MIN

MATERIAL TESTED:DERMATRIL (KCL 740, 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 INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC 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, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

RESPIRATORY PROTECTION

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF 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 ENVIRONMENTAL EXPOSURE

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

| | |
|---|--|
| APPEARANCE | White to off-white or pale yellow powder |
| ODOUR | NO DATA AVAILABLE |
| ODOUR THRESHOLD | NO DATA AVAILABLE |
| PH | NO DATA AVAILABLE |
| MELTING | 184 - 190 °C (Lit.) |
| POINT/FREEZING POINT | |
| INITIAL BOILING POINT | |
| AND BOILING RANGE | |
| FLASH POINT | |
| EVAPORATION RATE | NO DATA AVAILABLE |
| FLAMMABILITY (SOLID, GAS) | NO DATA AVAILABLE |
| UPPER/LOWER | NO DATA AVAILABLE |
| FLAMMABILITY OR | |
| EXPLOSIVE LIMITS | |
| VAPOUR PRESSURE | NO DATA AVAILABLE |
| VAPOUR DENSITY | NO DATA AVAILABLE |
| RELATIVE DENSITY | |
| WATER SOLUBILITY | 533 G/L AT 20 °C - COMPLETELY SOLUBLE |
| PARTITION COEFFICIENT: N- OCTANOL/WATER | NO DATA AVAILABLE |
| AUTO-IGNITION | NO DATA AVAILABLE |
| TEMPERATURE | |
| DECOMPOSITION | NO DATA AVAILABLE |
| TEMPERATURE | |
| VISCOSITY | NO DATA AVAILABLE |
| EXPLOSIVE PROPERTIES | NO DATA AVAILABLE |
| OXIDIZING PROPERTIES | NO DATA AVAILABLE |

OTHER SAFETY INFORMATION

| | |
|-----------------|--------------------|
| SURFACE TENSION | 21.6 MN/M AT 20 °C |
|-----------------|--------------------|

SECTION 10. STABILITY AND REACTIVITY

| | |
|---|--|
| REACTIVITY | NO DATA AVAILABLE |
| CHEMICAL STABILITY | STABLE UNDER RECOMMENDED STORAGE CONDITIONS. |
| POSSIBILITY OF HAZARDOUS REACTIONS | NO DATA AVAILABLE |
| CONDITIONS TO AVOID | NO DATA AVAILABLE |

**INCOMPATIBLE
MATERIALS**

STRONG OXIDIZING AGENTS

**HAZARDOUS
DECOMPOSITION
PRODUCTS**

HAZARDOUS DECOMPOSITION PRODUCTS FORMED
UNDER FIRE CONDITIONS. - CARBON OXIDES,
NITROGEN OXIDES (NOX), SULPHUR OXIDES,
HYDROGEN FLUORIDE 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 - MALE - 190 MG/KG

INHALATION: NO DATA AVAILABLE

LD50 DERMAL - RAT - MALE AND FEMALE - > 2,000
MG/KG

NO DATA AVAILABLE

**SKIN
CORROSION/IRRITATION**

SKIN RABBIT
RESULT: NO SKIN IRRITATION

**SERIOUS EYE
DAMAGE/EYE IRRITATION**

EYES RABBIT
RESULT: NO EYE IRRITATION

**RESPIRATORY OR SKIN
SENSITISATION**

IN VIVO ASSAY MOUSE
DID NOT CAUSE SENSITISATION ON LABORATORY
ANIMALS.
(OECD TEST GUIDELINE 429)

**GERM CELL
MUTAGENICITY**

REVERSE MUTATION ASSAY
S. TYPHIMURIUM
RESULT: NEGATIVE

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.

ACGIH:

NO COMPONENT OF THIS PRODUCT PRESENT AT
LEVELS GREATER THAN OR EQUAL TO 0.1% IS
IDENTIFIED AS A CARCINOGEN OR POTENTIAL
CARCINOGEN BY ACGIH.

NTP:

NO COMPONENT OF THIS PRODUCT PRESENT AT
LEVELS GREATER THAN OR EQUAL TO 0.1% IS

| | |
|---|--|
| OSHA: | IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP. 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 | NO DATA AVAILABLE |
| ASPIRATION HAZARD | NO DATA AVAILABLE |
| ADDITIONAL INFORMATION | RTECS: KH3154250 TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED. |

SECTION 12. ECOLOGICAL INFORMATION

| | |
|---|--|
| TOXICITY | NO DATA AVAILABLE |
| PERSISTENCE AND DEGRADABILITY | |
| BIODEGRADABILITY | AEROBIC - EXPOSURE TIME 28 D RESULT: 0 % - NOT BIODEGRADABLE |
| BIOACCUMULATIVE POTENTIAL | NO DATA AVAILABLE |
| 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. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. |
| CONTAMINATED PACKAGING | DISPOSE OF AS UNUSED PRODUCT. |

SECTION 14. TRANSPORT INFORMATION

DOT (US)

| | |
|------------------------------|---|
| PROPER SHIPPING NAME: | TOXIC SOLID, ORGANIC, N.O.S. (TETRAETHYLAMMONIUM HEPTADECAFLUOROOCTANESULPHONATE) |
| UN NUMBER: | 2811 |
| CLASS: | 6.1 |
| PACKING GROUP: | III |
| REPORTABLE QUANTITY (RQ): | |
| POISON INHALATION HAZARD: | NO |

IMDG

| | |
|-----------------------|---|
| PROPER SHIPPING NAME: | TOXIC SOLID, ORGANIC, N.O.S. (TETRAETHYLAMMONIUM HEPTADECAFLUOROOCTANESULPHONATE) |
| UN NUMBER: | 2811 |
| CLASS: | 6.1 |
| PACKING GROUP: | III |
| EMS-NO: | F-A, S-A |

IATA

| | |
|-----------------------|---|
| PROPER SHIPPING NAME: | TOXIC SOLID, ORGANIC, N.O.S. (TETRAETHYLAMMONIUM HEPTADECAFLUOROOCTANESULPHONATE) |
| UN NUMBER: | 2811 |
| CLASS: | 6.1 |
| PACKING GROUP: | III |

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 | ACUTE HEALTH HAZARD, CHRONIC HEALTH HAZARD | |
| MASSACHUSETTS RIGHT TO KNOW COMPONENTS | NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT. | |
| PENNSYLVANIA RIGHT TO KNOW COMPONENTS | | |
| | CAS-NO. | REVISION DATE |
| Heptadecafluorooctanesulfonic acid tetraethylammonium salt | 56773-42-3 | 07-01-2012 |
| NEW JERSEY RIGHT TO KNOW COMPONENTS | | |
| | CAS-NO. | REVISION DATE |
| Heptadecafluorooctanesulfonic acid tetraethylammonium salt | 56773-42-3 | 07-01-2012 |
| 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.

| | |
|------|---|
| H301 | TOXIC IF SWALLOWED. |
| H332 | HARMFUL IF INHALED. |
| H351 | SUSPECTED OF CAUSING CANCER. |
| H360 | MAY DAMAGE FERTILITY OR THE UNBORN CHILD. |
| H362 | MAY CAUSE HARM TO BREAST-FED CHILDREN. |
| H372 | CAUSES DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. |

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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