



SIGMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
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DATE 07/30/96
CUST#: 938609
PO#: 82809

M A T E R I A L S A F E T Y D A T A S H E E T

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SECTION 1. - - - - - CHEMICAL IDENTIFICATION- - - - -

CATALOG #: 15495-4
NAME: PENTANE, 99+%, SPECTROPHOTOMETRIC GRADE

SECTION 2. - - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 109-66-0
MF: C₅H₁₂
EC NO: 203-692-4

SYNONYMS

AMYL HYDRIDE * PENTAN (POLISH) * PENTANE (ACGIH:OSHA) * N-PENTANES
(DOT) * PENTANEN (DUTCH) * PENTANI (ITALIAN) * SKELLYSOLVE A * UN1265
(DOT) *

SECTION 3. - - - - - HAZARDS IDENTIFICATION - - - - -

● BEL PRECAUTIONARY STATEMENTS

FLAMMABLE (USA)
HIGHLY FLAMMABLE (EU)
HARMFUL
HARMFUL BY INHALATION AND IF SWALLOWED.
IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
TARGET ORGAN(S):
NERVES
KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.
TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
WEAR SUITABLE GLOVES AND EYE/FACE PROTECTION.
MAY DEVELOP PRESSURE.
OPEN CAREFULLY.
STORE UNDER NITROGEN.

SECTION 4. - - - - - FIRST-AID MEASURES- - - - -

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED
CLOTHING AND SHOES.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
WASH CONTAMINATED CLOTHING BEFORE REUSE.

SECTION 5. - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

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CATALOG #: 15495-4
NAME: PENTANE, 99+%, SPECTROPHOTOMETRIC GRADE

CARBON DIOXIDE, DRY CHEMICAL POWDER OR APPROPRIATE FOAM.
DO NOT USE WATER.

SPECIAL FIREFIGHTING PROCEDURES

WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS

EXTREMELY FLAMMABLE.
VAPOR MAY TRAVEL CONSIDERABLE DISTANCE TO SOURCE OF IGNITION AND
FLASH BACK.
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

SECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES- - - - -

EVACUATE AREA.
SHUT OFF ALL SOURCES OF IGNITION.
WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
COVER WITH AN ACTIVATED CARBON ADSORBENT, TAKE UP AND PLACE IN CLOSED
CONTAINERS. TRANSPORT OUTDOORS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

SECTION 7. - - - - - HANDLING AND STORAGE- - - - -

REFER TO SECTION 8.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -

CHEMICAL SAFETY GOGGLES.
SAFETY SHOWER AND EYE BATH.
MECHANICAL EXHAUST REQUIRED.
RUBBER GLOVES.
NIOSH/MSHA-APPROVED RESPIRATOR.
DO NOT BREATHE VAPOR.
AVOID CONTACT WITH EYES, SKIN AND CLOTHING.
WASH THOROUGHLY AFTER HANDLING.
HARMFUL LIQUID.
IRRITANT.
KEEP TIGHTLY CLOSED.
KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME.

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

APPEARANCE AND ODOR
COLORLESS LIQUID

PHYSICAL PROPERTIES
BOILING POINT:

35 C TO 36 C

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CATALOG #: 15495-4
NAME: PENTANE, 99+%, SPECTROPHOTOMETRIC GRADE
MELTING POINT: -130 C
FLASHPOINT: -57 F
13C
EXPLOSION LIMITS IN AIR:
UPPER 8.3%
LOWER 1.4%
AUTOIGNITION TEMPERATURE: 500 F 259C
VAPOR PRESSURE: 8.4PSI 20 C 26.98PSI 55 C
SPECIFIC GRAVITY: 0.626
VAPOR DENSITY: 2.48

SECTION 10. - - - - - STABILITY AND REACTIVITY - - - - -

INCOMPATIBILITIES
OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
TOXIC FUMES OF:
CARBON MONOXIDE, CARBON DIOXIDE

SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - - - -

ACUTE EFFECTS

HARMFUL IF INHALED OR SWALLOWED.
MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
VAPOR OR MIST IS IRRITATING TO THE EYES, MUCOUS MEMBRANES AND UPPER
RESPIRATORY TRACT.
CAUSES SKIN IRRITATION.
EXPOSURE CAN CAUSE:
DAMAGE TO THE LUNGS
TARGET ORGAN(S):
NERVES

RTECS #: RZ9450000
PENTANE

TOXICITY DATA

IHL-RAT LC50:364 GM/M3/4H GTPZAB 32(10),23,88
IVN-MUS LD50:446 MG/KG JPMSAE 67,566,78
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

SECTION 12. - - - - - ECOLOGICAL INFORMATION - - - - -

DATA NOT YET AVAILABLE.

SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - -

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND
CONTINUED ON NEXT PAGE

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NAME: PENTANE, 99+%, SPECTROPHOTOMETRIC GRADE

SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY
FLAMMABLE.
OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. - - - - - TRANSPORT INFORMATION - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

SECTION 15. - - - - - REGULATORY INFORMATION - - - - -

EUROPEAN INFORMATION

EC INDEX NO: 601-006-00-1

HIGHLY FLAMMABLE

HARMFUL

R 11

HIGHLY FLAMMABLE.

S 9

KEEP CONTAINER IN A WELL-VENTILATED PLACE.

S 16

KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.

S 29

DO NOT EMPTY INTO DRAINS.

S 33

TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGES.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

ACGIH TLV-TWA 600 PPM; STEL 750 PPM 85INA8 6,1185,91

MSHA STANDARD-AIR:TWA 500 PPM (1475 MG/M3)

DTLVS* 3,200,71

OSHA PEL (GEN'INDU):8H TWA 1000 PPM (2950 MG/M3)

CFRGBR 29,1910.1000,94

OSHA PEL (CONSTRUC):8H TWA 500 PPM (1500 MG/M3)

CFRGBR 29,1926.55,94

OSHA PEL (SHIPYARD):8H TWA 500 PPM (1500 MG/M3)

CFRGBR 29,1915.1000,93

OSHA PEL (FED CONT):8H TWA 1000 PPM (2950 MG/M3)

CFRGBR 41,50-204.50,94

OEL-AUSTRALIA:TWA 600 PPM (1800 MG/M3);STEL 750 PPM (2250 MG/M3) JAN93

OEL-BELGIUM:TWA 600 PPM (1770 MG/M3);STEL 750 PPM (2210 MG/M3) JAN93

OEL-DENMARK:TWA 500 PPM (1500 MG/M3) JAN93

OEL-FINLAND:TWA 500 PPM (1500 MG/M3);STEL 625 PPM (1800 MG/M3) JAN93

OEL-FRANCE:TWA 600 PPM (1800 MG/M3) JAN93

OEL-GERMANY:TWA 1000 PPM (2950 MG/M3) JAN93

OEL-HUNGARY:TWA 500 MG/M3;STEL 1500 MG/M3 JAN93

OEL-JAPAN:TWA 300 PPM (880 MG/M3) JAN93

OEL-THE NETHERLANDS:TWA 600 PPM (1800 MG/M3) JAN93

OEL-THE PHILIPPINES:TWA 1000 PPM (2950 MG/M3) JAN93

OEL-POLAND:TWA 100 MG/M3 JAN93

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CATALOG #: 15495-4
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OEL-RUSSIA:TWA 300 PPM;STEL 300 MG/M3 JAN93
OEL-SWEDEN:TWA 600 PPM (1800 MG/M3);STEL 750 PPM (2000 MG/M3) JAN93
OEL-SWITZERLAND:TWA 600 PPM (1800 MG/M3) JAN93
OEL-TURKEY:TWA 1000 PPM (2950 MG/M3) JAN93
OEL-UNITED KINGDOM:TWA 600 PPM (1800 MG/M3);STEL 750 PPM JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO PENTANE-AIR:10H TWA 120 PPM;CL 610 PPM/15M
NIOSH* DHHS #92-100,92
NOHS 1974: HZD 54243; NIS 31; TNF 3762; NOS 22; TNE 34548
NOES 1983: HZD 54243; NIS 24; TNF 1935; NOS 47; TNE 38465; TFE 10889
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1996
NIOSH ANALYTICAL METHOD, 1994: HYDROCARBONS, BP 36-126 DEGREE C, 1500

SECTION 16. - - - - - OTHER INFORMATION - - - - -

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