

LAB



SIGMA-ALDRICH

ALDRICH CHEMICAL COMPANY, INC.
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DATE 09/24/99
CUST#: 938609
PO#: 89527

M A T E R I A L S A F E T Y D A T A S H E E T PAGE 1

SECTION 1. - - - - - C H E M I C A L I D E N T I F I C A T I O N - - - - -

CATALOG #: 27041-5
NAME: PENTANE, 99+%, HPLC GRADE

SECTION 2. - - - - - C O M P O S I T I O N / I N F O R M A T I O N O N I N G R E D I E N T S - - - - -

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

SYNONYMS
AMYL HYDRIDE * PENTAN (POLISH) * PENTANE (ACGIH:OSHA) * PENTANEN
(DUTCH) * PENTANI (ITALIAN) * SKELLYSOLVE A *

SECTION 3. - - - - - H A Z A R D S I D E N T I F I C A T I O N - - - - -

LABEL 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.
OPEN CAREFULLY.

SECTION 4. - - - - - F I R S T - A I D M E A S U R E S - - - - -

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 SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

SECTION 5. - - - - - F I R E F I G H T I N G M E A S U R E S - - - - -

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

SPECIAL FIREFIGHTING PROCEDURES
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO

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PREVENT CONTACT WITH SKIN AND EYES.
USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.

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

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

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.
EVACUATE AREA.
SHUT OFF ALL SOURCES OF IGNITION.

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

REFER TO SECTION 8.

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

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

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

PHYSICAL PROPERTIES

BOILING POINT: 35 - 36 C
MELTING POINT: -130 C
FLASHPOINT: -120,2 F
 -49 C

EXPLOSION LIMITS IN AIR:

UPPER 8,3 %
LOWER 1,4 %
VAPOR PRESSURE: 1,394,866 MMHG
SPECIFIC GRAVITY: 0,626
VAPOR DENSITY: 2,48 G/L

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

INCOMPATIBILITIES
OXIDIZING AGENTS

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
CARBON MONOXIDE, CARBON DIOXIDE

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

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

CHRONIC EFFECTS
TARGET ORGAN(S):
DAMAGE TO THE LUNGS
NERVES

RTECS #: RZ9450000
PENTANE

TOXICITY DATA
IHL-RAT LC50:364 GM/M3/4H
IVN-MUS LD50:446 MG/KG
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
COMPLETE INFORMATION.

GTPZAB 32(10),23,1988
JPMSAE 67,566,1978

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

DATA NOT YET AVAILABLE.

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

BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND
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

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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-STEL 2210 MG/M3 (750 PPM)

DTLVS* TLV/BEI,1997

ACGIH TLV-TWA 1770 MG/M3 (600 PPM)

DTLVS* TLV/BEI,1997

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

DTLVS* 3,200,1971

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

CFRGR 29,1910.1000,1994

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

CFRGR 29,1926.55,1994

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

CFRGR 29,1915.1000,1993

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

CFRGR 41,50-204.50,1994

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

1993

OEL-AUSTRIA: MAK 600 PPM (1800 MG/M3), JAN1999

OEL-BELGIUM:TWA 600 PPM (1770 MG/M3);STEL 750 PPM (2210 MG/M3) JAN 1993

OEL-DENMARK: TWA 500 PPM (1500 MG/M3), JAN1999

OEL-FINLAND:TWA 500 PPM (1500 MG/M3);STEL 625 PPM (1800 MG/M3) JAN 1993

OEL-GERMANY:TWA 1000 PPM (2950 MG/M3) JAN 1993

OEL-JAPAN: OEL 300 PPM (880 MG/M3), JAN1999

OEL-HUNGARY:TWA 500 MG/M3;STEL 1500 MG/M3 JAN 1993

OEL-JAPAN:TWA 300 PPM (880 MG/M3) JAN 1993

OEL-THE NETHERLANDS:TWA 600 PPM (1800 MG/M3) JAN 1993

OEL-POLAND: MAC(TWA) 1800 MG/M3, MAC(STEL) 2300 MG/M3, JAN1999

OEL-THE PHILIPPINES:TWA 1000 PPM (2950 MG/M3) JAN 1993

OEL-RUSSIA:TWA 300 PPM;STEL 300 MG/M3 JAN 1993

OEL-SWEDEN:TWA 600 PPM (1800 MG/M3);STEL 750 PPM (2000 MG/M3) JAN 1993

OEL-SWITZERLAND:TWA 600 PPM (1800 MG/M3) JAN 1993

OEL-TURKEY:TWA 1000 PPM (2950 MG/M3) JAN 1993

OEL-UNITED KINGDOM:TWA 600 PPM (1800 MG/M3);STEL 750 PPM JAN 1993

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 #92-100,1992

NOHS 1974: HZD 54243; NIS 31; TNF 3762; NOS 22; TNE 34548

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NAME: PENTANE, 99+%, HPLC GRADE

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, JUNE 1999
NIOSH ANALYTICAL METHOD, 1994: HYDROCARBONS, BP 36-126 DEGREE C, 1500
NIOSH ANALYTICAL METHOD, 1996: VOLATILE ORGANIC COMPOUND, 2549

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

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