

MATERIAL SAFETY DATA SHEET

NAME OF PRODUCT 2-Pentene

FILE NO.: 2-pentene

MSDS DATE: 4/16 /14

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: 2—Pentene Mixture of cis and trans)
SYNONYMS:

MANUFACTURER: Synectic Corporation
P.O. Box 611
ADDRESS: Nitro, WV 25143

EMERGENCY PHONE: Chemtrec
CHEMTREC PHONE: 800 424-9300
OTHER CALLS: 304-727-6796
FAX PHONE: 304-727-6797

CHEMICAL NAME: 2-pentene
CHEMICAL FAMILY: alkenes
CHEMICAL FORMULA: CH₃CH₂CH=CHCH₃

PRODUCT USE: Chemical intermediate
PREPARED BY: Synectic Corporation

SECTION 1 NOTES:

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT: 2-pentene (mixture of cis and trans) 99% Minimum

Risk Phrases: 12, 65

CAS NO. 109-68-2

	<u>ppm</u>	<u>mg/m3</u>
OSHA PEL-TWA: none		
OSHA PEL STEL : none		
OSHA PEL CEILING: none		
ACGIH TLV-TWA: none		
ACGIH TLV STEL: none		
ACGIH TLV CEILING: none		

SECTION 2 NOTES:

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Extremely flammable. Harmful, may cause lung damage if swallowed.

ROUTES OF ENTRY: Lung, eyes, skin

POTENTIAL HEALTH EFFECTS
EYES: May cause irritation

SKIN: May cause skin irritation . May be harmful if absorbed through skin.
INGESTION: May irritate digestive tract Harmful if swallowed. May cause lung damage.

INHALATION: May irritate respiratory tract. May be harmful if inhaled.

ACUTE HEALTH HAZARDS: Mostly irritation.

CHRONIC HEALTH HAZARDS: None noted.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: None noted

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CARCINOGENICITY

OSHA: no ACGIH: no NTP: no IARC: no
OTHER: none

SECTION 3 NOTES:

SECTION 4: FIRST AID MEASURES

EYES: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

SKIN: Flush skin with water while removing contaminated shoes and clothing

INGESTION: DO NOT INDUCE VOMITING! Rinse mouth with water, seek medical attention at once.

INHALATION: Remove from exposure to fresh air. If not breathing use mouth to mouth or mechanical assistance to breathing. Administer oxygen if available. Seek medical assistance.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: treat symptomatically

SECTION 4 NOTES:

SECTION 5: FIRE-FIGHTING MEASURES

FLAMMABLE LIMITS IN AIR, UPPER: 8.7 %
(% BY VOLUME) **LOWER:** 1.4 %

FLASH POINT: -

F: -49

C: -45

METHOD USED: closed cup

AUTOIGNITION TEMPERATURE:

F: 523.4

C: 273

NFPA HAZARD CLASSIFICATION

HEALTH: 1 **FLAMMABILITY:** 4 **REACTIVITY:** 0
OTHER: none

HMIS HAZARD CLASSIFICATION

HEALTH: 1 **FLAMMABILITY:** 4 **REACTIVITY:** 0
PROTECTION: eyeglasses with side shields, gloves

EXTINGUISHING MEDIA: Water fog, petroleum foam, dry powder, CO2

SPECIAL FIRE FIGHTING PROCEDURES: Extremely flammable, vapors may flash back from a distant ignition source. Wear full firefighting ensemble including approved SCBA. Containers exposed to flame may burst or vent without warning

UNUSUAL FIRE AND EXPLOSION HAZARDS:

HAZARDOUS DECOMPOSITION PRODUCTS: normal products of combustion

SECTION 5 NOTES:

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACCIDENTAL RELEASE MEASURES: Use proper PPE. Product evaporates very quickly. Extinguish all nearby sources of ignition. Vapors may travel a long way, especially downhill to find an ignition source.

SECTION 6 NOTES:

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SECTION 7: HANDLING AND STORAGE

HANDLING AND STORAGE: Use spark-proof tools and explosion proof equipment. Keep away from ignition sources. Keep tightly closed when not in use. Containers involved in fire may rupture or vent without warning.

OTHER PRECAUTIONS: store with other flammables

SECTION 7 NOTES:

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS: use mechanical ventilation and/or local exhaust .

VENTILATION : good general or local ventilation to prevent vapor buildup

RESPIRATORY PROTECTION: Organic vapor filter or supplied air if necessary.

EYE PROTECTION: eyeglasses with side shields or goggles.

SKIN PROTECTION: Nitrile gloves

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: impermeable clothing as necessary to prevent skin contact

WORK HYGIENIC PRACTICES: Good industrial hygiene practices.

EXPOSURE GUIDELINES: none noted. Use good practices to minimize vapors

SECTION 8 NOTES:

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: clear, colorless to pale yellow liquid.

ODOR: typical mild hydrocarbon

PHYSICAL STATE: volatile liquid

pH AS SUPPLIED: Not available

pH (Other): not available

BOILING POINT:

F:

C: 36-38

MELTING POINT:

F: -265

C: -165

VAPOR PRESSURE (mmHg): 700

@

F: 68

C: 25

VAPOR DENSITY (AIR = 1): >1

@

F:

C:

SPECIFIC GRAVITY (H₂O = 1): 0.65

@

F:

C:

EVAPORATION RATE: highly volatile

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SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (con't)

SOLUBILITY IN WATER: 0.15 g/liter (20C)

PERCENT SOLIDS BY WEIGHT: 0

PERCENT VOLATILE: 100%

BY WT/ BY VOL @

F:

C:

MOLECULAR WEIGHT: 70.13

VISCOSITY: not available

@

F:

C:

SECTION 9 NOTES:

SECTION 10: STABILITY AND REACTIVITY

STABLE

UNSTABLE

STABILITY: x

CONDITIONS TO AVOID (STABILITY): strong oxidizers, ignition sources

INCOMPATIBILITY (MATERIAL TO AVOID): strong oxidizers

HAZARDOUS DECOMPOSITION OR BY-PRODUCTS: normal products of combustion or incomplete combustion

HAZARDOUS POLYMERIZATION: will not occur

CONDITIONS TO AVOID (POLYMERIZATION):

SECTION 10 NOTES:

SECTION 11: TOXICOLOGICAL INFORMATION

TOXICOLOGICAL INFORMATION: RTECS- not listed Information, below is for 1-pentene, which is chemically similar. Merck 14, 7123

INHALATION, MOUSE: LC50 180000 MG/M3/2HR, INHALATION, RAT: LC50 175000 MG/M3/4HR

SECTION 11 NOTES:

SECTION 12: ECOLOGICAL INFORMATION

ECOLOGICAL INFORMATION: Highly volatile. Not likely to contaminate water sources

SECTION 12 NOTES:

SECTION 13: DISPOSAL CONSIDERATIONS

WASTE DISPOSAL METHOD: incineration in licensed incinerator or industrial boiler

RCRA HAZARD CLASS: ignitable

SECTION 13: DISPOSAL CONSIDERATIONS (con't)

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Keep out of drains or sumps

SECTION 13 NOTES:

SECTION 14: TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION

PROPER SHIPPING NAME: Flammable liquid, NOS

HAZARD CLASS: 3

ID NUMBER: UN1993

PACKING GROUP: I

LABEL STATEMENT:

WATER TRANSPORTATION

PROPER SHIPPING NAME: Flammable Liquid, NOS

HAZARD CLASS: 3

ID NUMBER: UN1993

PACKING GROUP: I

LABEL STATEMENTS:

AIR TRANSPORTATION

PROPER SHIPPING NAME: Flammable liquid, NOS

HAZARD CLASS: 3

ID NUMBER: UN1993

PACKING GROUP: I

LABEL STATEMENTS:

OTHER AGENCIES:

SECTION 14 NOTES:

SECTION 15: REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

TSCA (TOXIC SUBSTANCE CONTROL ACT): listed

CERCLA (COMPREHENSIVE RESPONSE COMPENSATION, AND LIABILITY ACT): not listed

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT): not listed

311/312 HAZARD CATEGORIES: not listed

313 REPORTABLE INGREDIENTS: not listed

STATE REGULATIONS: no information

INTERNATIONAL REGULATIONS: Risk phrases :: R12 Extremely Flammable

R65 May cause lung damage if swallowed

Safety phrases: S16 keep away from sources of ignition, no smoking.

SECTION 15 NOTES:

SECTION 16: OTHER INFORMATION

OTHER INFORMATION:

PREPARATION INFORMATION: Preparation date 4-16-14

DISCLAIMER: The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality

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specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.