IDENTIFICATION

MSDS Record Number: 5617937
Product Name(s): HEPTANE
Product Identification:
MSDS NUMBER: H0584
PRODUCT CODE: 9177, 9198, 9338, 9365, M953, M955, M956, V652, 3162, 4830, 5139, 5164, 5166, 5177, V554, V678
C.A.S. NUMBER: 142-82-5
Date of MSDS: 2007-05-04
Currency Note: This MSDS was acquired from the supplier on 2007-09-06.

MANUFACTURER/SUPPLIER INFORMATION

Company: MALLINCKRODT BAKER INC

MATERIAL SAFETY DATA

Effective Date: 05/04/07
Supercedes: 08/10/04

==
MSDS MATERIAL SAFETY DATA SHEET
==
CHEMTREC: 800-424-9300 (USA)
703-527-3887 (Outside USA & CANADA)
CANUTEC: 613-996-6666

From: Mallinckrodt Baker, Inc.
222 Red School Lane
Phillipsburg, NJ 08865

Emergency Telephone Number: 908-859-2151

NOTE: Use CHEMTREC and CANUTEC phone numbers only in the event of a chemical emergency.

All non-emergency questions should be directed to Customer Service (1-800-582-2537) for assistance.

MALLINCKRODT J. T. BAKER
HEPTANE

1. Product Identification

Synonyms: n-Heptane; normal heptane; dipropyl methane; heptyl hydride
CAS No: 142-82-5
Molecular Weight: 100.20
Chemical Formula: CH3(CH2)5CH3

Product Codes:
J.T. Baker:
9177, 9198, 9336, 9365, M953, M955, M956, V652
Mallinckrodt:
3162, 4830, 5139, 5164, 5166, 5177, V554, V678

2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
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<tbody>
<tr>
<td>Heptane</td>
<td>142-82-5</td>
<td>90 - 100%</td>
<td>Yes</td>
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</table>

3. Hazards Identification

Emergency Overview

DANGER! FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

SAP-T-DATA(tm) Ratings (Provided here for your convenience)

| Health Rating: 2 - Moderate |
| Flammability Rating: 3 - Severe (Flammable) |
| Reactivity Rating: 0 - None |
| Contact Rating: 2 - Moderate |
| Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES; CLASS B EXTINGUISHER |
| Storage Color Code: Red (Flammable) |

Potential Health Effects

Inhalation:
Inhalation of vapors irritates the respiratory tract. May produce light headedness, dizziness, muscle incoordination, loss of appetite and nausea. Higher concentrations can produce central nervous system depression, narcosis, and unconsciousness.

Ingestion:
May produce abdominal pain, nausea. Aspiration into lungs can produce severe lung damage and is a medical emergency. Other symptoms expected to parallel inhalation.

Skin Contact:
May cause mild irritation, redness, pain.

Eye Contact:
Vapors may irritate the eyes. Splashes may produce redness, pain.

Chronic Exposure:
Repeated or prolonged skin contact may defat the skin and produce irritation and dermatitis.

Aggravation of Pre-existing Conditions:
Persons with pre-existing skin disorders or impaired pulmonary function may be more susceptible to the effects of this substance.
4. First Aid Measures

Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion:
Aspiration hazard. Do NOT induce vomiting. Give large amounts of water. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin Contact:
Immediately flush skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention if irritation develops.

Eye Contact:
Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

5. Fire Fighting Measures

Fire:
Flash point: -4C (25F) CC
Autoignition temperature: 204C (399F)
Flammable limits in air % by volume:
lel: 1.05; uel: 6.7
Flammable Liquid and Vapor!

Explosion:
Above flash point, vapor-air mixtures are explosive within flammable limits noted above. Vapors can flow along surfaces to distant ignition source and flash back. Sensivel a descargas estásticas.

Fire Extinguishing Media:
Dry chemical, foam or carbon dioxide. Water may be ineffective. Water spray may be used to keep fire exposed containers cool.

Special Information:
In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e.g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. J. T. Baker SOLUSORB(R) solvent adsorbent is recommended for spills of this product.
7. Handling and Storage

Protect against physical damage. Store in a cool, dry well-ventilated location, away from any area where the fire hazard may be acute. Outside or detached storage is preferred. Separate from incompatibles. Containers should be bonded and grounded for transfers to avoid static sparks. Storage and use areas should be No Smoking areas. Use non-sparking type tools and equipment, including explosion proof ventilation. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid); observe all warnings and precautions listed for the product. Do Not attempt to clean empty containers since residue is difficult to remove. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, sparks, flame, static electricity or other sources of ignition: they may explode and cause injury or death.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:
N-Heptane:
- OSHA Permissible Exposure Limit (PEL) - 500 ppm (TWA)
- ACGIH Threshold Limit Value (TLV) - 400 ppm (TWA), 500 ppm (STEL)

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, "Industrial Ventilation, A Manual of Recommended Practices", most recent edition, for details.

Personal Respirators (NIOSH Approved):
If the exposure limit is exceeded and engineering controls are not feasible, a half-face organic vapor respirator may be worn for up to ten times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. A full-face piece organic vapor respirator may be worn up to 50 times the exposure limit, or the maximum use concentration specified by the appropriate regulatory agency or respirator supplier, whichever is lowest. For emergencies or instances where the exposure levels are not known, use a full-face piece positive-pressure, air-supplied respirator. WARNING: Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Skin Protection:
Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Eye Protection:
Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

9. Physical and Chemical Properties

Appearance: Boiling Point:
Clear, colorless liquid.  

Odor: Mild, gasoline-like.  

Solubility: Insoluble in water. 

Specific Gravity: 0.684 @ 20C/4C 

pH: No information found. 

% Volatiles by volume @ 21C (70F): 100 

--- Stability and Reactivity --- 

Stability: 
Stable under ordinary conditions of use and storage. Heat will contribute to instability. 

Hazardous Decomposition Products: 
Carbon dioxide and carbon monoxide may form when heated to decomposition. 

Hazardous Polymerization: 
Will not occur. 

Incompatibilities: 
Strong oxidizers. 

Conditions to Avoid: 
Heat, flames, ignition sources and incompatibles. 

--- Toxicological Information --- 

For n-Heptane: Inhalation rat LC50: 103 gm/m3/4H 

---NTP Carcinogen--- 

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<th>Known</th>
<th>Anticipated</th>
<th>IARC Category</th>
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<td>Heptane (142-82-5)</td>
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<td>No</td>
<td>None</td>
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--- Ecological Information --- 

Environmental Fate: 
For n-Heptane: When released into the soil, this material may biodegrade to a moderate extent. When released into the soil, this material is not expected to leach into groundwater. When released into the soil, this material is expected to quickly evaporate. When released into water, this material may biodegrade to a moderate extent. When released to water, this material is expected to quickly evaporate. This material has an estimated bioconcentration factor (BCF) of greater than 100. This material has a log octanol-water partition coefficient of greater than 3.0. This material may bioaccumulate to some extent. When released into the air, this material is expected to be readily degraded by reaction with photochemically produced hydroxyl radicals. When released into the
air, this material is expected to have a half-life between 1 and 10 days.

Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be handled as hazardous waste and sent to a RCRA approved incinerator or disposed in a RCRA approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations.

Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: HEPTANES
Hazard Class: 3
UN/NA: UN1206 Packing Group: II
Information reported for product/size: 215L

International (Water, I.M.O.)

Proper Shipping Name: HEPTANES
Hazard Class: 3
UN/NA: UN1206 Packing Group: II
Information reported for product/size: 215L

15. Regulatory Information

Ingredient

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Ingredient

Federal, State & International Regulations - Part 1

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Federal, State & International Regulations - Part 2

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Chemical Weapons Convention: No

TSCA 12(b): Yes

CDTA: No
SARA 311/312: Acute: Yes Chronic: No Fire: Yes Pressure: No
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: 3{Y}E
Australian Poison Schedule: None allocated.

WHMIS: This MSDS has been prepared according to the hazard
criteria of the Controlled Products Regulations (CPR) and
the MSDS contains all of the information required by the
CPR.

16. Other Information

NFPA Ratings:
Health: 1 Flammability: 3 Reactivity: 0

Label Hazard Warning:
DANGER! FLAMMABLE LIQUID AND VAPOR. HARMFUL OR FATAL IF SWALLOWED.
HARMFUL IF INHALED. CAUSES IRRITATION TO SKIN, EYES AND RESPIRATORY
TRACT. AFFECTS CENTRAL NERVOUS SYSTEM.

Label Precautions:
Keep away from heat, sparks and flame.
Keep container closed.
Avoid breathing vapor or mist.
Use only with adequate ventilation.
Avoid contact with eyes, skin and clothing.
Wash thoroughly after handling.

Label First Aid:
Aspiration hazard. If swallowed, DO NOT INDUCE VOMITING. Give large
quantities of water. Never give anything by mouth to an unconscious
person. If inhaled, remove to fresh air. If not breathing, give
artificial respiration. If breathing is difficult, give oxygen. In case
of contact, immediately flush eyes or skin with plenty of water for at
least 15 minutes. In all cases call a physician.

Product Use:
Laboratory Reagent.

Revision Information:
No Changes.

Disclaimer:
*******************************************************************************
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H0584