IDEN TIFICATION

MSDS Record Number: 5617939
Product Name(s): HEXADECANE
Product Identification: MSDS NUMBER: H1211
PRODUCT CODE: N105, H223
C.A.S. NUMBER: 544-76-3
Date of MSDS: 2006-01-16
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: 01/16/06
Supercedes: 08/10/04

MALLINCKRODT J. T. BAKER

HEXADECANE

1. Product Identification

   Synonyms: n-Hexadecane; cetane
   CAS No: 544-76-3
   Molecular Weight: 226.45
   Chemical Formula: CH3(CH2)14CH3
2. Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hexadecane</td>
<td>544-76-3</td>
<td>90 - 100%</td>
<td>Yes</td>
</tr>
</tbody>
</table>

3. Hazards Identification

Emergency Overview

DANGER! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES SEVERE SKIN IRRITATION. MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION. PROLONGED EXPOSURE CAN CAUSE NARCOTIC EFFECTS.

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

Health Rating: 2 - Moderate
Flammability Rating: 1 - Slight
Reactivity Rating: 0 - None
Contact Rating: 3 - Severe
Lab Protective Equip: GOGGLES & SHIELD; LAB COAT & APRON; VENT HOOD; PROPER GLOVES
Storage Color Code: Green (General Storage)

Potential Health Effects

Information on the human health effects from exposure to this substance is limited.

Inhalation:
Inhalation of vapors may be irritating to the mucous membrane and upper respiratory tract. May cause narcosis.

Ingestion:
Harmful if swallowed. Direct aspiration into the lungs may cause chemical pneumonitis and may cause lung damage.

Skin Contact:
Causes severe skin irritation based on Draize information for humans and animals.

Eye Contact:
May cause eye irritation.

Chronic Exposure:
No information found.

Aggravation of Pre-existing Conditions:
No information found.

4. First Aid Measures
Inhalation:
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:
If swallowed, DO NOT INDUCE VOMITING. Give large quantities of water. Never give anything by mouth to an unconscious person. Get medical attention immediately. Aspiration hazard.

Skin Contact:
Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Wash clothes before reuse. Get medical attention if irritation develops or persists.

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: > 100C (> 212F) CC
Autoignition temperature: 205C (401F)

Explosion:
Above the flash point, explosive vapor-air mixtures may be formed. Above flash point, vapor-air mixtures are explosive within flammable limits noted above.

Fire Extinguishing Media:
Dry chemical, foam, carbon dioxide, or water spray. Water may be ineffective.

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. Water spray may be used to keep fire exposed containers cool.

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!

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Isolate from incompatible substances.
8. Exposure Controls / Personal Protection

Airborne Exposure Limits:
None established.

Ventilation System:
A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. 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):
For conditions of use where exposure to the substance is apparent and engineering controls are not feasible, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece 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:
Clear, colorless liquid.

Boiling Point:
287°C (549°F)

Odor:
No information found.

Melting Point:
18°C (64°F)

Solubility:
Insoluble in water.

Vapor Density (Air=1):
7.8

Specific Gravity:
0.77

Vapor Pressure (mm Hg):
1 @ 105.3°C (221°F)

pH:
No information found.

Evaporation Rate (BuAc=1):
No information found.

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

10. Stability and Reactivity

Stability:
Stable under ordinary conditions of use and storage. Hygroscopic.

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.

11. Toxicological Information

No LD50/LC50 information found relating to normal routes of occupational exposure. Irritation data: skin, human: 50 mg/48H Severe

---WTP Carcinogen---
|
---Known---|---Anticipated---|---IARC Category---
|
Hexadecane (544-76-3) | No | No | None

12. Ecological Information

Environmental Fate:
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 may evaporate to a moderate extent. When released into water, this material may biodegrade to a moderate extent. When released into water, this material may evaporate to a moderate extent. 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 is not expected to significantly bioaccumulate. When released into the air, this material is not expected to be degraded by photolysis. When released into air, this material is expected to have a half-life between 10 and 30 days.

Environmental Toxicity:
No information found.

13. Disposal Considerations

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal 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

Not regulated.

15. Regulatory Information

---Chemical Inventory Status - Part 1---
Ingredient | TSCA | EC | Japan | Australia
---|---|---|---|---
Hexadecane (544-76-3) | Yes | Yes | Yes | Yes

Chemical Inventory Status - Part 2

Ingredient | Korea | DSL | NDSL | Phil.
---|---|---|---|---
Hexadecane (544-76-3) | Yes | Yes | No | Yes

Federal, State & International Regulations - Part 1

Ingredient | SARA 302 - RQ | TPQ | List Chemical Catg.
---|---|---|---
Hexadecane (544-76-3) | No | No | No

Federal, State & International Regulations - Part 2

Ingredient | CERCLA 261.33 | B(d)
---|---|---
Hexadecane (544-76-3) | No | No | No

Chemical Weapons Convention: No
TSCA 12(b): No
SARA 311/312: Acute: Yes  Chronic: No  Fire: No  Pressure: No
Reactivity: No (Pure / Liquid)

Australian Hazchem Code: None allocated.
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: 1  Reactivity: 0

Label Hazard Warning:
DANGER! HARMFUL OR FATAL IF SWALLOWED. HARMFUL IF INHALED. CAUSES SEVERE SKIN IRRITATION. MAY CAUSE EYE AND RESPIRATORY TRACT IRRITATION. PROLONGED EXPOSURE CAN CAUSE NARCOTIC EFFECTS.

Label Precautions:
Keep container closed.
Use only with adequate ventilation.
Avoid breathing vapor.
Wash thoroughly after handling.
Avoid contact with eyes, skin and clothing.

Label First Aid:
If swallowed, DO NOT INDUCE VOMITING!
Aspiration hazard. Call a physician immediately. 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:
MSDS Section(s) changed since last revision of document include: 3, 15.

Disclaimer:
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H1211

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