Material Safety Data Sheet

Petroleum Ether
MSDS# 18330

Section 1 - Chemical Product and Company Identification

MSDS Name: Petroleum Ether
Catalog Numbers: P/1360/17, P/1360/25, P/2100/PB17
Synonyms: Naphtha Solvent; Naphtha Petroleum
Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

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CAS#: 71-43-2
Chemical Name: Benzene
%: N/A
EINECS#: 200-753-7
Risk Phrases: F T

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CAS#: 75-83-2
Chemical Name: Neohexane
%: <4.0
EINECS#: 200-906-8
Risk Phrases:

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CAS#: 78-78-4
Chemical Name: Isopentane
%: <2.0
EINECS#: 201-142-8
Risk Phrases:

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CAS#: 79-29-8
Chemical Name: 2,3-Dimethylbutane
%: <4.0
EINECS#: 201-193-6
Risk Phrases:

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CAS#: 96-14-0
Chemical Name: 3-Methylpentane
%: <6.0
EINECS#: 202-481-4
Risk Phrases:
Section 3 - Hazards Identification

Highly flammable. Irritating to eyes and skin. May cause cancer.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Harmful: may cause lung damage if swallowed. Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness. Highly flammable.

Potential Health Effects

Eye:
Causes eye irritation. May cause conjunctivitis and corneal inflammation.

Skin:
Exposure may cause irritation characterized by redness, dryness, and inflammation. Prolonged exposure may produce blisters.

Ingestion:
Aspiration hazard. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause
collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation:
Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. High vapor concentrations may cause drowsiness.

Aspiration may cause respiratory swelling and pneumonitis.

Chronic:
Prolonged or repeated skin contact may cause dermatitis. Chronic exposure to vapors may produce polyneuropathy. May cause kidney damage. Potential cancer hazard.

Section 4 - First Aid Measures

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

Skin:
Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion:
Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation:
Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

Notes to Physician:
Gastric lavage by qualified medical personnel may be considered depending on quantity of material ingested.

Section 5 - Fire Fighting Measures

General Information:
As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Vapors can travel to a source of ignition and flash back. Use water spray to keep fire-exposed containers cool. Vapor may cause flash fire. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas. Containers may explode when heated.

Extinguishing Media:
Use water spray to cool fire-exposed containers. Water may be ineffective. This material is lighter than water and insoluble in water. The fire could easily be spread by the use of water in an area where the water cannot be contained. Do NOT use straight streams of water. For small fires, use dry chemical, carbon dioxide, water spray or regular foam. Cool containers with flooding quantities of water until well after fire is out. For large fires, use water spray,
fog or regular foam.

Section 6 - Accidental Release Measures

General Information:
Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:
Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. A vapor suppressing foam may be used to reduce vapors. Water spray may reduce vapor but may not prevent ignition in closed spaces.

Section 7 - Handling and Storage

Handling:
Wash thoroughly after handling. Use with adequate ventilation. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Keep away from heat, sparks and flame. Avoid ingestion and inhalation. Prevent build up of vapors to explosive concentration. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage:
Keep away from sources of ignition. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits
CAS# 71-43-2:
United Kingdom, WEL - TWA: 1 ppm TWA
United Kingdom, WEL - STEL: 3 ppm STEL
United States OSHA: 10 ppm TWA (apply only to exempt industry segments); 25 ppm Ceiling; 1 ppm PEL; 5 ppm STEL; 0.5 ppm Action Level (Cancer hazard, Flammable - see 29 C FR 1910.1028)
Belgium - TWA: 1 ppm VLE; 3.25 mg/m3 VLE
France - VME: 1 ppm VME; 3.25 mg/m3 VME
Germany: 1 ppm TWA; 3.25 mg/m3 TWA
Germany: Skin absorber
Japan: 1 ppm OEL (reference value)
Malaysia: 0.5 ppm TWA; 1.6 mg/m3 TWA
Netherlands: 1 ppm MAC; 3.25 mg/m3 MAC
Russia: 15 mg/m3 TWA
Russia: 5 mg/m3 STEL
Spain: 1 ppm VLA-ED; 3.25 mg/m3 VLA-ED
CAS# 75-83-2:
Germany: 200 ppm TWA; 720 mg/m3 TWA
Netherlands: 200 ppm MAC; 720 mg/m3 MAC
CAS# 78-78-4:
Germany: 1000 ppm TWA; 3000 mg/m3 TWA
CAS# 79-29-8:
Germany: 200 ppm TWA; 720 mg/m3 TWA
Netherlands: 200 ppm MAC; 720 mg/m3 MAC
CAS# 96-14-0:
Germany: 200 ppm TWA; 720 mg/m3 TWA
Netherlands: 200 ppm MAC; 720 mg/m3 MAC
CAS# 107-83-5:
Germany: 200 ppm TWA; 720 mg/m3 TWA
Netherlands: 200 ppm MAC; 720 mg/m3 MAC
CAS# 109-66-0:
United States OSHA: 1000 ppm TWA; 2950 mg/m3 TWA
Belgium - TWA: 600 ppm VLE; 1796 mg/m3 VLE
Belgium - STEL: 750 ppm VLE; 2242 mg/m3 VLE
France - VME: 600 ppm VME; 1800 mg/m3 VME
Germany: 1000 ppm TWA; 3000 mg/m3 TWA
Japan: 300 ppm OEL; 880 mg/m3 OEL
Netherlands: 600 ppm MAC; 1800 mg/m3 MAC
Russia: 300 mg/m3 TWA
Spain: 1000 ppm VLA-ED (all isomers); 3000 mg/m3 VLA-ED (all isomers)
CAS# 287-92-3:
Belgium - TWA: 600 ppm VLE; 1745 mg/m3 VLE
France - VME: 600 ppm VME; 1720 mg/m3 VME
Malaysia: 600 ppm TWA; 1720 mg/m3 TWA
Netherlands: 600 ppm MAC; 1720 mg/m3 MAC
Spain: 600 ppm VLA-ED; 1745 mg/m3 VLA-ED
CAS# 68476-50-6:
Personal Protective Equipment
Eyes:
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:
Wear appropriate protective gloves to prevent skin exposure.

Clothing:
Wear appropriate protective clothing to prevent skin exposure.

Respirators:
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid
Color: colorless
Odor: mild odor - gasoline-like
pH: Not available
Vapor Pressure: 485 mm Hg @ 20C
Viscosity: Not available
Boiling Point: 39.8 deg C (103.64 F)
Freezing/Melting Point: Not available
Autoignition Temperature: 500 deg F (260.00 deg C)
Flash Point: -50 deg F ( -45.56 deg C)
Explosion Limits: Lower:1.1
Explosion Limits: Upper:5.9
Decomposition Temperature: Not available
Solubility in water: Insoluble
Specific Gravity/Density: 0.643 @ 60 F
Molecular Formula: Hydrocarbon
Molecular Weight: Not available

Section 10 - Stability and Reactivity
Chemical Stability:
Stable under normal temperatures and pressures.
Conditions to Avoid:
Incompatible materials, ignition sources, excess heat.
Incompatibilities with Other Materials
Not available
Hazardous Decomposition Products
Carbon monoxide, carbon dioxide.
Hazardous Polymerization
Has not been reported.

Section 11 - Toxicological Information
RTECS#:
CAS# 71-43-2: CY1400000
CAS# 75-83-2 unlisted.
CAS# 78-78-4: EK4430000
CAS# 79-29-8: EJ9350000
CAS# 96-14-0 unlisted.
CAS# 107-83-5: SA2985000
CAS# 109-66-0: RZ9450000
CAS# 287-92-3: GY2390000
CAS# 68476-50-6 unlisted.
LD50/LC50:
CAS# 71-43-2: Dermal, guinea pig: LD50 = >9400 uL/kg; Draize test, rabbit, eye: 88 mg Moderate; Draize test, rabbit, eye: 2 mg/24H Severe; Draize test, rabbit, skin: 20 mg/24H Moderate; Inhalation, mouse: LC50 = 9980 ppm; Inhalation, mouse: LC50 = 24 mL/kg/2H; Inhalation, rat: LC50 = 10000 ppm/7H; Inhalation, rat: LC50 = 34 mL/kg/2H; Inhalation, rat: LC50 = 6.5 mL/kg/4H; Oral, mouse: LD50 = 4700 mg/kg; Oral, rat: LD50 = 930 mg/kg; Oral, rat: LD50 = 1 mL/kg; Oral, rat: LD50 = 1800 mg/kg; Skin, rabbit: LD50 = >9400 uL/kg;.
CAS# 75-83-2:.
CAS# 78-78-4: Inhalation, mouse: LC50 = 150000 mg/m3/2H; Inhalation, rat: LC50 = 280000 mg/m3/4H;.
CAS# 79-29-8:.
CAS# 96-14-0:.
CAS# 107-83-5:.
CAS# 109-66-0: Inhalation, rat: LC50 = 364 gm/m3/4H; Oral, rat: LD50 = >2000 mg/kg;.
CAS# 287-92-3: Inhalation, mouse: LC50 = 72 gm/m3; Inhalation, rat: LC50 = 106 gm/m3; Oral, mouse: LD50 = 12800 mg/kg; Oral, rat: LD50 = 11400 mg/kg;.
CAS# 68476-50-6:.
Carcinogenicity:
Benzene -
ACGIH: A1 - Confirmed Human Carcinogen
California: carcinogen, initial date 2/27/87
NTP: Known carcinogen
IARC: Group 1 carcinogen
Neohexane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Isopentane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
2,3-Dimethylbutane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
3-Methylpentane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Isohexane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
n-Pentane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Cyclopentane - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Hydrocarbons, Includes chemicals below - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:
Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location.
Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

IATA
Shipping Name: Petroleum distillates, n.o.s
Hazard Class: 3
UN Number: 1268
Packing Group: II

IMO
Shipping Name: PETROLEUM DISTILLATES, N.O.S
Hazard Class: 3
UN Number: 1268
Packing Group: II

RID/ADR
Shipping Name: PETROLEUM DISTILLATES, NOS
Hazard Class: 3
UN Number: 1268
Packing Group: II

USA RQ: CAS# 71-43-2: 10 lb final RQ (receives an adjustable RQ of 10 lbs based

Section 15 - Regulatory Information

European/International Regulations
European Labeling in Accordance with EC Directives

Hazard Symbols: T F N
Risk Phrases:
R 45 May cause cancer.
R 11 Highly flammable.
R 36/38 Irritating to eyes and skin.
R 51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R 65 Harmful: may cause lung damage if swallowed.
R 66 Repeated exposure may cause skin dryness or cracking.
R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:
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.
S 61 Avoid release to the environment. Refer to special instructions/safety data sheets.
S 62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

WGK (Water Danger/Protection)
CAS# 71-43-2: 3
CAS# 75-83-2: Not available
CAS# 78-78-4: 1
CAS# 79-29-8: Not available
CAS# 96-14-0: 1
CAS# 107-83-5: 1
CAS# 109-66-0: 1
CAS# 287-92-3: 1
CAS# 68476-50-6: Not available

Canada
CAS# 71-43-2 is listed on Canada's DSL List
CAS# 75-83-2 is listed on Canada's DSL List
CAS# 78-78-4 is listed on Canada's DSL List
CAS# 79-29-8 is listed on Canada's DSL List
CAS# 96-14-0 is listed on Canada's DSL List
CAS# 107-83-5 is listed on Canada's DSL List
CAS# 109-66-0 is listed on Canada's DSL List
CAS# 287-92-3 is listed on Canada's DSL List
CAS# 68476-50-6 is listed on Canada's NDSL List

US Federal
TSCA
CAS# 71-43-2 is listed on the TSCA Inventory.
CAS# 75-83-2 is listed on the TSCA Inventory.
CAS# 78-78-4 is listed on the TSCA Inventory.
CAS# 79-29-8 is listed on the TSCA Inventory.
CAS# 96-14-0 is listed on the TSCA Inventory.
CAS# 107-83-5 is listed on the TSCA Inventory.
CAS# 109-66-0 is listed on the TSCA Inventory.
CAS# 287-92-3 is listed on the TSCA Inventory.
CAS# 68476-50-6 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2
MSDS Creation Date: 3/10/1999
Revision #10 Date 1/19/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantibility or any other warranty, express or implied, with respect to such information, and we assume no liability.
resulting from its use. Users should make their own investigations to
determine the suitability of the information for their particular
purposes. In no event shall the company be liable for any claims,
losses, or damages of any third party or for lost profits or any
special, indirect, incidental, consequential, or exemplary damages
howsoever arising, even if the company has been advised of the
possibility of such damages.

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