

A. G. Layne, Inc.

SAFETY DATA SHEET

SDS Distribution: The information in this document should be made available to all who may handle the product.

A.G. Layne, Inc. urges each customer or recipient of this SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this SDS and any hazards associated with the product. It is the Buyer's/User's responsibility to ensure that his activities comply with all Federal, State, Provincial or Local laws. The information presented here pertains only to the product as shipped. The information contained herein is based on our current knowledge of the underlying data and is intended to describe the product for the purpose of health, safety and environmental requirements only. NO warranty or guarantee is expressed or implied regarding the accuracy of this data or the results to be obtained from the use of the product.

Product ID Hexane

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: Hexane
Product Name: Hexane
Revision Date: May 22, 2015 **Date Printed:** Sep 21, 2015
Version: 1.1 **Supersedes Date:** May 22, 2015
Manufacturer's Name: A. G. Layne, Inc.
Address: 4578 Brazil Street Los Angeles, CA, US, 90039
Emergency Phone: CHEMTREC US : 1-800-424-9300, INTERNATIONAL CALLS : 1-703-527-3887
Information Phone: 323-245-2345
Fax:
Product/Recommended Uses: Various industrial and formulary applications

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Specific Target Organ Toxicity -Single Exposure (Narcotic Effects) - Category 3
Specific Target Organ Toxicity - Repeated Exposure - Category 2
Aspiration Hazard - Category 1
Skin Irritation - Category 2
Eye Irritation - Category 2A
Reproductive Toxicity - Category 2
Chronic aquatic toxicity - Category 2
Flammable Liquids Category 2
Acute aquatic toxicity - Category 2
Flammables solids Category 2

Pictograms:



Signal Word:

Danger

Hazardous Statements - Physical:

Highly flammable liquid and vapor
Flammable solid

Hazardous Statements - Health:

May be fatal if swallowed and enters airways
Causes serious eye irritation
Suspected of damaging fertility or the unborn child.
Causes skin irritation
May cause damage to organs through prolonged or repeated exposure.
May cause drowsiness or dizziness

Hazardous Statements - Environmental:

- Toxic to aquatic life
- Toxic to aquatic life with long lasting effects

Precautionary Statements - General:

- If medical advice is needed, have product container or label at hand.
- Keep out of reach of children.
- Read label before use.

Precautionary Statements - Prevention:

- Avoid release to the environment.
- Wash with soap and water thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- Keep container tightly closed.
- Ground/bond container and receiving equipment.
- Use explosion-proof electrical/ventilating/lighting equipment.
- Use only non-sparking tools.
- Take action to prevent static discharges.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Do not breathe dust/fume/gas/mist/vapors/spray.
- Avoid breathing dust/fume/gas/mist/vapors/spray.
- Use only outdoors or in a well-ventilated area.

Precautionary Statements - Response:

- IF SWALLOWED: Immediately call a POISON CENTER or doctor.
- Do NOT induce vomiting.
- Collect spillage.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse with water or shower.
- In case of fire: Use DRY chemical, alcohol- resistant foam, water spray/fog or carbon-dioxide to extinguish.
- IF exposed or concerned: Get medical advice/attention.
- IF ON SKIN: Wash with plenty of water.
- Specific treatment (see First-aid on this label).
- If skin irritation occurs: Get medical advice/attention.
- Take off contaminated clothing. And wash it before reuse.
- Get Medical advice/attention if you feel unwell.
- IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- Call a POISON CENTER/doctor if you feel unwell.

Precautionary Statements - Storage:

- Store locked up.
- Store in a well-ventilated place. Keep cool.
- Store in a well-ventilated place. Store locked up.

Precautionary Statements - Disposal:

- Dispose of contents/container to disposal recycling center.
- Waste management should be in full compliance with federal, state and local laws.

SECTION 3) COMPOSITION / INFORMATION ON INGREDIENTS

| CAS | Chemical Name | % By Weight |
|--------------|---------------------|-----------------|
| 0000110-54-3 | HEXANE | 68% - 100% |
| 0000096-37-7 | METHYL CYCLOPENTANE | 8.440% - 13% |
| 0000142-82-5 | N-HEPTANE | 2.850% - 3.150% |
| 0000110-82-7 | CYCLOHEXANE | 1.900% - 2.100% |
| 0000108-88-3 | TOLUENE | 0 - 0.001 % |
| 0000100-41-4 | ETHYLBENZENE | 0 - 0.001 % |
| 0000071-43-2 | BENZENE | 0 - 0.001 % |
| 0000091-20-3 | NAPHTHALENE | 0 - 0.001 % |

SECTION 4) FIRST-AID MEASURES

Inhalation:

Remove source of exposure or move person to fresh air and keep comfortable for breathing. If victim is not breathing, call 911 and administer CPR as directed.

Eliminate all ignition sources if safe to do so.

Skin Contact:

Rinse/wash with lukewarm, gently flowing water (and mild soap) for 15-20 minutes or until product is removed. If skin irritation occurs or you feel unwell: Get medical advice/attention.

Eye Contact:

Remove source of exposure or move person to fresh air. Rinse eyes cautiously with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelids open. Remove contact lenses, if present and easy to do. Continue rinsing. Take care not to rinse contaminated water into the unaffected eye or onto the face. Get immediate medical attention.

Ingestion:

Do NOT induce vomiting. If vomiting occurs naturally, lie on your side, in the recovery position. Immediately call 911 POISON CENTER/doctor/. Immediately transport to the nearest medical facility for treatment.

SECTION 5) FIRE-FIGHTING MEASURES

Suitable Extinguishing Media:

Dry chemical, foam, carbon dioxide or fog is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Simultaneous use of foam and water on the same surface is to be avoided as water destroys the foam. Sand or earth may be used for small fires only.

Unsuitable Extinguishing Media:

No data available.

Specific Hazards in Case of Fire:

No data available.

Fire-fighting Procedures:

Isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done safely. Move undamaged containers from immediate hazard area if it can be done safely. Water spray may be useful in minimizing or dispersing vapors and to protect personnel.

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

Special Protective Actions:

Wear protective pressure self-contained breathing apparatus (SCBA) and full turnout gear.

SECTION 6) ACCIDENTAL RELEASE MEASURES

Emergency Procedure:

ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).

RELEASE CAN CAUSE FIRE/EXPLOSION. LIQUIDS/VAPORS MAY IGNITE.

Do not touch or walk through spilled material.

Isolate hazard area and keep unnecessary people away. Remove all possible sources of ignition in the surrounding area. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur.

If spilled material is cleaned up using a regulated solvent, the resulting waste mixture may be regulated.

Recommended Equipment:

Positive pressure, full-facepiece self-contained breathing apparatus (SCBA), or positive pressure supplied air respirator with escape SCBA (NIOSH approved).

Personal Precautions:

Avoid breathing vapor. Avoid contact with skin, eye or clothing. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Use explosive proof equipment. Avoid inhalation of dust and contact with skin and eyes. Do not touch damaged containers or spilled materials unless wearing appropriate protective clothing.

Environmental Precautions:

Stop spill/release if it can be done safely. Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems and natural waterways by using sand, earth, or other appropriate barriers.

Methods and Materials for Containment and Cleaning up:

Sand, clay and absorbent socks can be used to contain a spill.

SECTION 7) HANDLING AND STORAGE

General:

- Wash hands after use.
- Do not get in eyes, on skin or on clothing.
- Do not breathe vapors or mists.
- Use good personal hygiene practices.
- Eating, drinking and smoking in work areas is prohibited.
- Remove contaminated clothing and protective equipment before entering eating areas.
- Eyewash stations and showers should be available in areas where this material is used and stored.

Ventilation Requirements:

Use only with adequate ventilation to control air contaminants to their exposure limits. The use of local ventilation is recommended to control emissions near the source.

Storage Room Requirements:

- Keep container(s) tightly closed and properly labeled. Store in cool, dry, well-ventilated areas away from heat, direct sunlight, strong oxidizers and any incompatibilities. Store in approved containers and protect against physical damage. Keep containers securely sealed when not in use. Indoor storage should meet OSHA standards and appropriate fire codes. Containers that have been opened must be carefully resealed to prevent leakage. Empty container retain residue and may be dangerous.
- Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.
- Ground and bond containers and receiving equipment. Avoid static electricity by grounding.
- Electrostatic charges may be generated during pumping. Keep away from aerosols, flammables, oxidizing agents, corrosives and from other flammable products.

SECTION 8) EXPOSURE CONTROLS, PERSONAL PROTECTION

Respiratory Protection:

If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker, a respiratory protection program that meets or is equivalent to OSHA 29 CFR 1910.134 and ANSI Z88.2 should be followed. Check with respiratory protective equipment suppliers.

Skin Protection:

Use of gloves approved to relevant standards made from the following materials may provide suitable chemical protection: PVC, neoprene or nitrile rubber gloves. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, glove thickness, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Use of an apron and over-boots of chemically impervious materials such as neoprene or nitrile rubber is recommended to avoid skin sensitization. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Launder soiled clothes or properly disposed of contaminated material, which cannot be decontaminated.

Eye Protection:

Wear eye protection with side shields or goggles. Wear indirect-vent, impact and splash resistant goggles when working with liquids. If additional protection is needed for entire face, use in combination with a face shield.

Appropriate Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

| Chemical Name | OSHA TWA (ppm) | OSHA TWA (mg/m3) | OSHA STEL (ppm) | OSHA STEL (mg/m3) | OSHA Tables (Z1, Z2, Z3) | OSHA Carcinogen | OSHA Skin designation | NIOSH TWA (ppm) | NIOSH TWA (mg/m3) | NIOSH STEL (ppm) | NIOSH STEL (mg/m3) | NIOSH Carcinogen |
|---------------|-------------------|------------------|--------------------|-------------------|--------------------------|-----------------|-----------------------|-----------------|-------------------|------------------|--------------------|------------------|
| BENZENE | 1 (a) / 25ceiling | | 50(a) / 10minutes. | | 1 | 1 | | 0.1c | | 1c | | 1 |

| | | | | | | | | | | | | |
|--------------|-------------------------|------|------------------------------|--|-----|--|--|-----|------|-----|-----|--|
| CYCLOHEXANE | 300 | 1050 | | | 1 | | | 300 | 1050 | | | |
| ETHYLBENZENE | 100 | 435 | | | 1 | | | 100 | 435 | 125 | 545 | |
| HEXANE | 500 | 1800 | | | 1 | | | 50 | 180 | | | |
| NAPHTHALENE | 10 | 50 | | | 1 | | | 10 | 50 | 15 | 75 | |
| N-HEPTANE | 500 | 2000 | | | 1 | | | 85 | 350 | | | |
| TOLUENE | 200 (a)/ 300 ceiling | 0.2 | 500ppm /10 minutes (a) | | 1,2 | | | 100 | 375 | 150 | 560 | |

| Chemical Name | ACGIH TWA (ppm) | ACGIH TWA (mg/m3) | ACGIH STEL (ppm) | ACGIH STEL (mg/m3) | ACGIH Carcinogen | ACGIH Notations | ACGIH TLV Basis |
|---------------|-----------------------|-------------------------|------------------------|--------------------------|---------------------|--------------------|--|
| BENZENE | 0.5 | 1.6 | 2.5 | 8 | A1 | Skin; A1; BEI | Leukemia |
| CYCLOHEXANE | 100 | | | | | | CNS impair |
| ETHYLBENZENE | 20 | | | | A3 | A3; BEI | URT irr;Kidney dam (nephropat hy); Cochlear impair |
| HEXANE | 50 | 176 | | | | Skin, BEI | CNS impair; peripheral neuropathy ; eye irr |
| NAPHTHALENE | 10 | | | | A3 | Skin; A3 | URT irr; cataracts; hemolytic anemia |
| N-HEPTANE | 400 | 1640 | 500 | 2050 | | | CNS impair; URT irr |
| TOLUENE | 20 | 0.2 | | | A4 | A4; BEI | Visual impair; female repro; pregnancy loss |

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

| | |
|--------------------|-------------|
| Specific Gravity | 0.68 |
| Density | 5.67 lb/gal |
| % VOC | 100.00% |
| VOC Actual | 5.67 lb/gal |
| Density VOC | 5.67 lb/gal |
| % Solids By Weight | 0.00% |

| | |
|--------------------|------------------------|
| Appearance | Clear liquid |
| Odor Threshold | N/A |
| Odor Description | Characteristic |
| pH | N/A |
| Water Solubility | N/A |
| Flammability | Flashpoint below 73 °F |
| Flash Point Symbol | C |

| | |
|--------------------------------|---------------------------------------|
| Flash Point | -25.99 °C |
| Viscosity | N/A |
| Lower Explosion Level | N/A |
| Upper Explosion Level | N/A |
| Vapor Pressure | N/A |
| Vapor Density | N/A |
| Freezing Point | N/A |
| Melting Point | N/A |
| Low Boiling Point | N/A |
| High Boiling Point | N/A |
| Auto Ignition Temp | N/A |
| Decomposition Pt | N/A |
| Evaporation Rate | N/A |
| Coefficient Water/Oil | N/A |
| VOC Composite Partial Pressure | 117.016 mmHg (Calculated @ 20 C/68 F) |

SECTION 10) STABILITY AND REACTIVITY

Stability:

Stable under normal conditions of use.

Conditions to Avoid:

Avoid heat, sparks, open flames and other ignition sources.

Hazardous Reactions/Polymerization:

No data available.

Incompatible Materials:

Strong oxidizing agents.

Hazardous Decomposition Products:

Thermal decomposition may yield carbon dioxide and/or carbon monoxide.

SECTION 11) TOXICOLOGICAL INFORMATION

Acute toxicity:

Ingestion: May be harmful or fatal if swallowed.

Skin Corrosion/Irritation:

Causes skin irritation

Serious eye damage/irritation:

Causes serious eye irritation

Germ cell mutagenicity:

No data available

Respiratory/Skin Sensitization:

Slightly irritating to respiratory system.

Carcinogenicity:

No data available

Reproductive toxicity:

Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity - Repeated Exposure:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

May be fatal if swallowed and enters airways

Specific Target Organ Toxicity - Single Exposure:

May cause drowsiness or dizziness

| | |
|--------------|--------------|
| 0000071-43-2 | BENZENE |
| 0000110-82-7 | CYCLOHEXANE |
| 0000100-41-4 | ETHYLBENZENE |
| 0000110-54-3 | HEXANE |
| 0000091-20-3 | NAPHTHALENE |
| 0000142-82-5 | N-HEPTANE |
| 0000108-88-3 | TOLUENE |

Potential Health Effects - Miscellaneous

0000091-20-3 NAPHTHALENE

Is an IARC, NTP or OSHA carcinogen. Tests in some laboratory animals demonstrate carcinogenic activity. Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: kidneys, liver. Recurrent overexposure may result in liver and kidney injury. WARNING: This chemical is known to the State of California to cause cancer.

0000100-41-4 ETHYLBENZENE

Is an IARC, NTP or OSHA carcinogen. Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, lungs. Recurrent overexposure may result in liver and kidney injury. Studies in laboratory animals have shown reproductive, embryotoxic and developmental effects. WARNING: This chemical is known to the State of California to cause cancer.

0000108-88-3 TOLUENE

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, kidneys, liver, respiratory system, skin. Can be absorbed through the skin in harmful amounts. Recurrent overexposure may result in liver and kidney injury. High airborne levels have produced irregular heart beats in animals and occasional palpitations in humans. Rats exposed to very high airborne levels have exhibited high frequency hearing deficits. The significance of this to man is unknown. WARNING: This chemical is known to the State of California to cause birth defects or other reproductive harm.

0000142-82-5 N-HEPTANE

Increased susceptibility to the effects of this material may be observed in people with preexisting disease of any of the following: central nervous system, respiratory system, skin. May cause central nervous system effects such as dizziness, headache, nausea, and loss of consciousness. Laboratory studies with rats have shown that petroleum distillates can cause kidney damage and kidney or liver tumors. These effects were not seen in similar studies with guinea pigs, dogs, or monkeys. Several studies evaluating petroleum workers have not shown a significant increase of kidney damage or an increase in kidney or liver tumors. Aspiration may occur during swallowing or vomiting, resulting in lung damage.

Chronic Exposure

0000100-41-4 ETHYLBENZENE

CARCINOGENIC EFFECTS: Ethyl Benzene has been listed by IARC as Group 2B, Possibly Carcinogenic to Humans.

TERATOGENIC EFFECTS: Ethyl Benzene has been Classified as POSSIBLE for humans.

0000108-88-3 TOLUENE

TERATOGENIC EFFECTS:Toluene has been Classified as POSSIBLE for humans.

SECTION 12) ECOLOGICAL INFORMATION

Bio-accumulative Potential:

No data available.

Persistence and Degradability:

No data available.

Mobility in Soil:

No data available.

Toxicity:

Toxic to aquatic life

Toxic to aquatic life with long lasting effects

Other adverse effects:

No data available.

SECTION 13) DISPOSAL CONSIDERATIONS

Waste Disposal Method:

Under RCRA it is the responsibility of the user of the product to determine at the time of disposal whether the product meets RCRA criteria for hazardous waste. Waste management should be in full compliance with federal, state and local laws.

Empty Containers retain product residue which may exhibit hazards of material, therefore do not pressurize, cut, glaze, weld or use for any other purposes. Return drums to reclamation centers for proper cleaning and reuse.

SECTION 14) TRANSPORT INFORMATION

U.S. DOT Information:

UN1208, Hexanes, 3, PG II

Emergency Response Guide (ERG):

Emergency Response Guide 128

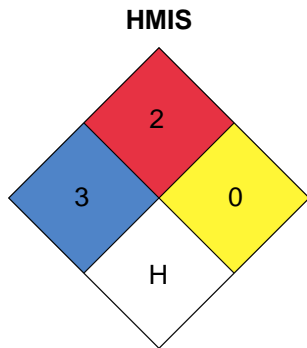
SECTION 15) REGULATORY INFORMATION

| CAS | Chemical Name | % By Weight | Regulation List |
|--------------|---------------------|-----------------|--|
| 0000110-54-3 | HEXANE | 68% - 100% | CERCLA,SARA312,SARA313,VOC,TSCA,CA_TAC_TOX,NEI - National Emissions Inventory,OSHA |
| 0000096-37-7 | METHYL CYCLOPENTANE | 8.440% - 13% | SARA312,VOC,TSCA |
| 0000142-82-5 | N-HEPTANE | 2.850% - 3.150% | SARA312,VOC,TSCA,OSHA |
| 0000110-82-7 | CYCLOHEXANE | 1.900% - 2.100% | CERCLA,SARA312,SARA313,VOC,TSCA,RCRA,OSHA |
| 0000108-88-3 | TOLUENE | 0 - 0.001 % | CERCLA,SARA312,SARA313,VOC,IARCCarcinogen,TSCA,RCRA,CA_TAC_TOX,NEI - National Emissions Inventory,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Develop - CA_Proposition65_Type_Toxicity_Developmental,OSHA |
| 0000100-41-4 | ETHYLBENZENE | 0 - 0.001 % | CERCLA,SARA312,SARA313,VOC,IARCCarcinogen,TSCA,CA_TAC_TOX,CA_Carcinogen,NEI - National Emissions Inventory,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Cancer - CA_Proposition65_Type_Toxicity_Cancer,OSHA |
| 0000071-43-2 | BENZENE | 0 - 0.001 % | CERCLA,SARA312,SARA313,VOC,IARCCarcinogen,TSCA,RCRA, OSHA Carcinogen,CA_TAC_TOX,CA_TAC_Carcinogen,CA_Carcinogen,NEI - National Emissions Inventory,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Cancer - CA_Proposition65_Type_Toxicity_Cancer,CA_Prop65_Type_Toxicity_Develop - CA_Proposition65_Type_Toxicity_Developmental,CA_Prop65_Type_Toxicity_Male - CA_Proposition65_Type_Toxicity_Male,OSHA |
| 0000091-20-3 | NAPHTHALENE | 0 - 0.001 % | CERCLA,SARA312,SARA313,VOC,TSCA,RCRA,CA_TAC_TOX,CA_Carcinogen,NEI - National Emissions Inventory,CA_Prop65 - California Proposition 65,CA_Prop65_Type_Toxicity_Cancer - CA_Proposition65_Type_Toxicity_Cancer,OSHA |

SECTION 16) OTHER INFORMATION

General:

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Chronic :

DISCLAIMER

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