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 Heptane

SAFETY DATA SHEET

SECTION 1) CHEMICAL PRODUCT AND SUPPLIER'S IDENTIFICATION

Product ID: Heptane Product Name: Heptane

 Revision Date:
 Jun 08, 2015
 Date Printed:
 Sep 21, 2015

 Version:
 1.1
 Supersedes Date:
 Jul 10, 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: Industrial solvent

SECTION 2) HAZARDS IDENTIFICATION

Classification:

Aspiration Hazard - Category 1

Germ Cell Mutagenicity - Category 1B

Carcinogenicity - Category 1B Flammable Liquids Category 2

Pictograms:





Signal Word:

Danger

Hazardous Statements - Physical:

Highly flammable liquid and vapor

Hazardous Statements - Health:

May be fatal if swallowed and enters airways

May cause cancer.

May cause genetic defects.

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:

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

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.

Precautionary Statements - Response:

IF SWALLOWED: Immediately call a POISON CENTER or doctor.

Do NOT induce vomiting.

IF exposed or concerned: 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.

Precautionary Statements - Storage:

Store locked up.

Store in a well-ventilated place. Keep cool.

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

 0064742-89-8
 ALIPHATIC, LIGHT HYDROCARBON SOLVENT
 80% - 100%

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 immidiate 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.

Eve 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 |
|--|----------------------|------------------------|-----------------------|-------------------------|--------------------------------|--------------------|-----------------------------|-----------------------|-------------------------|------------------------|--------------------------|---------------------|
| ALIPHATIC, LIGHT HYDROCARBON SOLVENT | 500 | 2000 | | | 1 | | | | | | | |

| Chemical Name | ACGIH TWA (ppm) | ACGIH TWA (mg/m3) | ACGIH STEL (ppm) | ACGIH STEL (mg/m3) | ACGIH Carcinogen | ACGIH Notations | ACGIH TLV Basis |
|--|-----------------------|-------------------------|------------------------|--------------------------|---------------------|--------------------|--------------------|
| ALIPHATIC, LIGHT HYDROCARBON SOLVENT | | | | | | | |

SECTION 9) PHYSICAL AND CHEMICAL PROPERTIES

Physical and Chemical Properties

 Specific Gravity
 0.74

 Density
 6.18 lb/gal

 % VOC
 100.00%

 VOC Actual
 6.18 lb/gal

 Density VOC
 6.18 lb/gal

 % Solids By Weight
 0.00%

Appearance Liquid
Odor Threshold N/A

Odor Description Hydrocarbon

pH N/A Water Solubility N/A

Flammability Flashpoint below 73 °F

Flash Point Symbol С -7 °C Flash Point Viscosity N/A Lower Explosion Level N/A Upper Explosion Level N/A Vapor Pressure N/A Vapor Density N/A N/A Freezing Point 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

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:

No data available

Serious eye damage/irritation:

No data available

Germ cell mutagenicity:

May cause genetic defects.

Respiratory/Skin Sensitization:

Slightly irritating to respiratory system.

Carcinogenicity:

May cause cancer.

Reproductive toxicity:

No data available

Specific Target Organ Toxicity - Repeated Exposure:

No data available

Specific Target Organ Toxicity - Single Exposure:

No data available

Aspiration hazard:

May be fatal if swallowed and enters airways

Potential Health Effects - Miscellaneous

0064742-89-8 ALIPHATIC, LIGHT HYDROCARBON SOLVENT

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.

SECTION 12) ECOLOGICAL INFORMATION

Bio-accumulative Potential:

No data available.

Persistence and Degradability:

No data available.

Mobility in Soil:

No data available.

Toxicity:

No data available

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:

UN1206, Heptanes, 3, PG II

Emergency Response Guide (ERG):

Emergency Response Guide 128

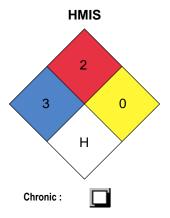
SECTION 15) REGULATORY INFORMATION

| CAS | Chemical Name | % By Weight | Regulation List |
|--------------|--|-------------|-----------------------|
| 0064742-89-8 | ALIPHATIC, LIGHT HYDROCARBON SOLVENT | 80% - 100% | SARA312,VOC,TSCA,OSHA |

SECTION 16) OTHER INFORMATION

General:

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.



Version 1.1:

Change in Section 8-Respirarto

DISCLAIMER

To the best of our knowledge, the information contained herein is accurate. However, neither A. G. Layne, Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. The above information pertains to this product as currently formulated, and is based on the information available at this time. Addition of reducers or other additives to this product may substantially alter the composition and hazards of the product. Since conditions of use are outside our control, we make no warranties, express or implied, and assume no liability in connection with any use of this information.