



## Safety Data Sheet

Revision Date: 10/03/19

www.restek.com

2 Letter ISO country code/language code: US/EN

### 1. IDENTIFICATION

**Catalog Number / Product Name:** 31698 / TPH n-alkane markers  
**Company:** Restek Corporation  
**Address:** 110 Benner Circle  
Bellefonte, Pa. 16823  
**Phone#:** 814-353-1300  
**Fax#:** 814-353-1309  
**Emergency#:** 800-424-9300 (CHEMTREC)  
703-527-3887 (Outside the US)  
**Email:** www.restek.com  
**Revision Number:** 11  
**Intended use:** For Laboratory use only

### 2. HAZARD(S) IDENTIFICATION

#### Emergency Overview:

GHS Hazard  
Symbols:



**GHS Classification:** Flammable Liquid Category 2  
Hazardous to the aquatic environment - Chronic Category 2  
Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 3

**GHS Signal Word:** Danger

**GHS Hazard:** Highly flammable liquid and vapour.  
May cause drowsiness or dizziness.  
Toxic to aquatic life with long lasting effects.

**GHS Precautions:**

**Safety Precautions:** Keep away from heat/sparks/open flames/hot surfaces. – No smoking.  
Ground/bond container and receiving equipment.  
Use explosion-proof electrical/ventilation and lighting equipment.  
Use only non-sparking tools.  
Take precautionary measures against static discharge.  
Avoid breathing dust/fume/gas/mist/vapours/spray.  
Use only outdoors or in a well-ventilated area.  
Avoid release to the environment.  
Wear protective gloves/protective clothing/eye protection/face protection.

**First Aid Measures:** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
Call a POISON CENTER or doctor/physician if you feel unwell.  
In case of fire: Use extinguishing media in section 5 for extinction.  
Collect spillage.

**Storage:** Store in a well-ventilated place. Keep container tightly closed.  
Store in a well-ventilated place. Keep cool.  
Store locked up.

**Disposal:** Dispose of contents/container according to section 13 of the SDS.

**Single** Specific target organ toxicity - Single exposure - STOT SE 3: H336 May cause drowsiness or dizziness.

**Exposure  
Target Organs:**

**Repeated Exposure Target Organs:** Specific target organ toxicity - Repeated exposure - STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (C >= 5 %; Minimum classification, No information to prove exclusion of certain routes of exposure)

**3. COMPOSITION / INFORMATION ON INGREDIENT**

Chemical Name	CAS #	EINEC #	% Composition
Pentane	109-66-0	203-692-4	99.92
hexane	110-54-3	203-777-6	0.02
n-Dodecane	112-40-3	203-967-9	0.02
pentatriacontane	630-07-9		0.02
octacosane	630-02-4	211-125-7	0.02

**4. FIRST-AID MEASURES**

**Inhalation:** Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately

**Eyes:** Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.

**Skin Contact:** Wash with soap and water. Get medical attention if irritation develops or persists.

**Ingestion:** Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this SDS. Induce vomiting as a last measure. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis that may be fatal.

**5. FIRE- FIGHTING MEASURES**

**Extinguishing Media:** Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water spray or fog may also be effective for extinguishing if swept across the base of the fire. Water can also be used to absorb heat and keep exposed material from being damaged by fire. Water may be ineffective in fire fighting due the material (or component(s) low flash point, low solvent density, and limited miscibility with water.

**Fire and/or Explosion Hazards:** Vapors may be ignited by heat, sparks, flames or other sources of ignition at or above the low flash point giving rise to a Class B fire. Vapors are heavier than air and may travel to a source of ignition and flash back Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death.

**Fire Fighting Methods and Protection:** Do not enter fire area without proper protection including self-contained toxic breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface. Use water spray/fog for cooling. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions and Equipment:** Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this SDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Also consider the expertise of employees in the area responding to the spill. No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found

**Methods for Clean-up:** in Section 8 of this SDS. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation. No special spill clean-up considerations. Collect and discard in regular trash.

## 7. HANDLING AND STORAGE

**Handling Technical Measures and Precautions:** Mildly irritating material. Avoid unnecessary exposure. Use spark-proof tools and explosion-proof equipment. Avoid contact with material. Ground and bond containers when transferring material. Do not enter storage area unless adequately ventilated.

**Storage Technical Measures and Conditions:** Store in a cool dry ventilated location. Isolate from incompatible materials and conditions. Keep container(s) closed. Keep away from heat, sparks, and flame. Store in a cool place in original container and protect from sunlight. Limit quantity of material stored.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### United States:

Chemical Name	CAS No.	IDLH	ACGIH STEL	ACGIH TLV-TWA	OSHA Exposure Limit
Pentane	109-66-0	1500 ppm IDLH (10% LEL)	None Known	600 ppm TWA; 1770 mg/m3 TWA	1000 ppm TWA; 2950 mg/m3 TWA

### Personal Protection:

**Engineering Measures:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure. Explosion proof exhaust ventilation should be used. Engineering controls must be designed to meet the OSHA chemical specific standard in 29 CFR 1910.

**Respiratory Protection:** Respiratory protection will be required when handling this product. Use respirators only if ventilation cannot be used to eliminate symptoms or reduce the exposure to below acceptable levels. Wear a NIOSH approved respirator if any exposure is possible. Follow a respiratory protection program that meets 29 CFR 1910.134 and ANSI Z88.2 requirements whenever work place conditions warrant the use of a respirator.

**Eye Protection:** Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Wear goggles and a Face shield.

**Skin Protection:** Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Not normally considered a skin hazard. Where use can result in skin contact, practice good personal hygiene and wear a barrier cream and/or impervious surgical style gloves. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**Medical Conditions Aggravated By Exposure:** Eye disease Respiratory disease including asthma and bronchitis Skin disease including eczema and sensitization

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance, color:** Colorless

**Odor:** Mild

**Physical State:** No data available

**pH:** Not applicable

**Vapor Pressure:** No data available

**Vapor Density:** 2.5 (air = 1)

**Boiling Point (°C):** 36.1 °C (HSDB)

**Melting Point (°C):** <-50 °C

**Flash Point (°F):** -56

**Flammability:** Highly Flammable Extremely Flammable

**Upper Flammable/Explosive Limit, % in air:** 7.8

**Lower Flammable/Explosive Limit, % in air:** 1.4

**Autoignition Temperature (°C):** 260 deg C

<b>Decomposition Temperature (°C):</b>	No data available
<b>Specific Gravity:</b>	630 kg/m <sup>3</sup> at 15 °C
<b>Evaporation Rate:</b>	No data available
<b>Odor Threshold:</b>	No data available
<b>Solubility:</b>	Negligible; 0-1%
<b>Partition Coefficient: n-octanol in water:</b>	No data available
<b>VOC % by weight:</b>	99.92
<b>Molecular Weight:</b>	No data available

## 10. STABILITY AND REACTIVITY

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<b>Stability:</b>	Stable under normal conditions.
<b>Conditions to Avoid:</b>	None known.
<b>Materials to Avoid / Chemical Incompatibility:</b>	Strong oxidizing agents
<b>Hazardous Decomposition Products:</b>	No data available

## 11. TOXICOLOGICAL INFORMATION

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<b>Routes of Entry:</b>	Inhalation Ingestion Skin contact Eye contact
<b>Target Organs Potentially Affected By Exposure:</b>	Eyes, Central nervous system stimulation, Respiratory Tract, Skin
<b>Chemical Interactions That Change Toxicity:</b>	None Known

### Immediate (Acute) Health Effects by Route of Exposure:

<b>Inhalation Irritation:</b>	Can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache. High concentrations may be fatal.
<b>Skin Contact:</b>	Can cause minor skin irritation, defatting, and dermatitis.
<b>Eye Contact:</b>	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
<b>Ingestion Irritation:</b>	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis which can be fatal.

### Long-Term (Chronic) Health Effects:

<b>Carcinogenicity:</b>	No data.
<b>Reproductive and Developmental Toxicity:</b>	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
<b>Inhalation:</b>	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
<b>Skin Contact:</b>	Upon prolonged or repeated contact, can cause minor skin irritation, defatting, and dermatitis.

### **Component Toxicological Data:**

#### **NIOSH:**

<b>Chemical Name</b>	<b>CAS No.</b>	<b>LD50/LC50</b>
Pentane	109-66-0	Inhalation LC50 Rat : 364 gm/m <sup>3</sup> /4H

### **Component Carcinogenic Data:**

#### **OSHA:**

<b>Chemical Name</b>	<b>CAS No.</b>
No data available	

#### **ACGIH:**

<b>Chemical Name</b>	<b>CAS No.</b>
No data available	

#### **NIOSH:**

<b>Chemical Name</b>	<b>CAS No.</b>
No data available	

#### **NTP:**

<b>Chemical Name</b>	<b>CAS No.</b>
No data available	

#### **IARC:**

<b>Chemical Name</b>	<b>CAS No.</b>	<b>Group No.</b>

## 12. ECOLOGICAL INFORMATION

<b>Overview:</b>	Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
<b>Mobility:</b>	No data
<b>Persistence:</b>	No data
<b>Bioaccumulation:</b>	No data
<b>Degradability:</b>	No data
<b>Ecological Toxicity Data:</b>	No data available

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Description of Spent Product:</b>	Spent or discarded material is a hazardous waste. Mixing spent or discarded material with other materials may render the mixture hazardous. Perform a hazardous waste determination on mixtures.
<b>Disposal Methods:</b>	Dispose of by incineration following Federal, State, Local, or Provincial regulations.
<b>Waste Disposal of Packaging:</b>	Comply with all Local, State, Federal, and Provincial Environmental Regulations.

## 14. TRANSPORTATION INFORMATION

<b>United States:</b>	
<b>DOT Proper Shipping Name:</b>	Pentanes
<b>UN Number:</b>	UN1265
<b>Hazard Class:</b>	3
<b>Packing Group:</b>	II

<b>International:</b>	
<b>IATA Proper Shipping Name:</b>	Pentanes
<b>UN Number:</b>	UN1265
<b>Hazard Class:</b>	3
<b>Packing Group:</b>	II

**Marine Pollutant:** No

Chemical Name	CAS#	Marine Pollutant	Severe Marine Pollutant
No data available			

## 15. REGULATORY INFORMATION

<b>United States:</b>					
<b>Chemical Name</b>	<b>CAS#</b>	<b>CERCLA</b>	<b>SARA 313</b>	<b>SARA EHS 313</b>	<b>TSCA</b>
Pentane	109-66-0	-	-	-	X

The following chemicals are listed on CA Prop 65:

Chemical Name	CAS #	Regulation
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**State Right To Know Listing:**

Chemical Name	CAS#	New Jersey	Massachusetts	Pennsylvania	California
Pentane	109-66-0	X	X	X	X
hexane	110-54-3				
n-Dodecane	112-40-3				
pentatriacontane	630-07-9				
octacosane	630-02-4				

## 16. OTHER INFORMATION

<b>Prior Version Date:</b>	12/17/18
<b>Other Information:</b>	Any changes to the SDS compared to previous versions are marked by a vertical line in front of the concerned paragraph.
<b>References:</b>	No data available
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