

# Safety Data Sheet

Material Name: N-PENTANE

SDS ID: 00233339

## \*\*\* Section 1 - PRODUCT AND COMPANY IDENTIFICATION \*\*\*

### Material Name: N-PENTANE

#### Manufacturer Information

ADVANCED GAS TECHNOLOGIES

Phone: 1-800-416-2505

1401 Stauffer Road

Palm, PA 18070-0035

Emergency # 1-800-424-9300 (CHEMTREC)

Mfg Contact: Outside the US: 703-572-3887 (Collect Calls Accepted)

#### Chemical Family

hydrocarbons, aliphatic

#### Synonyms

Mtg msds 130; n-Pentane; Amyl hydride; UN 1265; C5H12; RTECS: RZ9450000

## \*\*\* Section 2 - HAZARDS IDENTIFICATION \*\*\*

#### EMERGENCY OVERVIEW

**Color:** colorless

**Physical Form:** liquid

**Odor:** gasoline odor

**Health Hazards:** respiratory tract irritation, skin irritation, aspiration hazard, central nervous system depression

**Physical Hazards:** Flammable liquid and vapor. Vapor may cause flash fire.

#### POTENTIAL HEALTH EFFECTS

##### Inhalation

**Short Term:** irritation, nausea, difficulty breathing, headache, drowsiness, dizziness, disorientation, mood swings, loss of coordination

**Long Term:** no information on significant adverse effects

##### Skin

**Short Term:** irritation

**Long Term:** irritation

##### Eye

**Short Term:** irritation

**Long Term:** no information on significant adverse effects

##### Ingestion

**Short Term:** nausea, stomach pain, headache, drowsiness, dizziness, loss of coordination, aspiration hazard

**Long Term:** no information on significant adverse effects

## \*\*\* Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS \*\*\*

CAS	Component	Percent
109-66-0	n-Pentane	99.2
Not Available	Aromatic hydrocarbons	0.8

#### Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Pentanes.

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## \*\*\* Section 4 - FIRST AID MEASURES \*\*\*

### Inhalation

If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

### Skin

Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

### Eyes

Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

### Ingestion

Aspiration hazard. DO NOT induce vomiting. If vomiting occurs, keep head lower than hips to help prevent aspiration. Get immediate medical attention. Give artificial respiration if not breathing.

## \*\*\* Section 5 - FIRE FIGHTING MEASURES \*\*\*

See Section 9 for Flammability Properties

**NFPA Ratings: Health: 2 Fire: 4 Reactivity: 0**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

### Flammable Properties

Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive. Electrostatic discharges may be generated by flow or agitation resulting in ignition or explosion.

### Extinguishing Media

regular dry chemical carbon dioxide water regular foam  
Large fires: Use regular foam or flood with fine water spray.

### Fire Fighting Measures

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile).

## \*\*\* Section 6 - ACCIDENTAL RELEASE MEASURES \*\*\*

### Occupational spill/release

Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of ignition. Keep unnecessary people away, isolate hazard area and deny entry.

## \*\*\* Section 7 - HANDLING AND STORAGE \*\*\*

### Storage Procedures

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. See original container for storage recommendations. Keep separated from incompatible substances.

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## \*\*\* Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION \*\*\*

### Component Analysis

#### n-Pentane (109-66-0)

ACGIH:	600 ppm TWA
OSHA (final):	1000 ppm TWA; 2950 mg/m <sup>3</sup> TWA
OSHA (vacated):	750 ppm STEL; 2250 mg/m <sup>3</sup> STEL 600 ppm TWA; 1800 mg/m <sup>3</sup> TWA
NIOSH:	120 ppm TWA; 350 mg/m <sup>3</sup> TWA 610 ppm Ceiling 15 min; 1800 mg/m <sup>3</sup> Ceiling 15 min

### IDLH

1500 ppm

### Ventilation

Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure limits.

### PERSONAL PROTECTIVE EQUIPMENT

#### Eyes/Face

Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

#### Protective Clothing

Wear appropriate chemical resistant clothing.

#### Glove Recommendations

Wear appropriate chemical resistant gloves.

#### Respiratory Protection

The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

1200 ppm

Any supplied-air respirator.

1500 ppm

Any supplied-air respirator operated in a continuous-flow mode.

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

Emergency or planned entry into unknown concentrations or IDLH conditions -

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -

Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

Under conditions of frequent use or heavy exposure, respiratory protection may be needed.

Respiratory protection is ranked in order from minimum to maximum.

Consider warning properties before use.

Any chemical cartridge respirator with organic vapor cartridge(s).

Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).

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Any air-purifying respirator with a full facepiece and an organic vapor canister.

## For Unknown Concentrations or Immediately Dangerous to Life or Health -

Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

## \*\*\* Section 9 - PHYSICAL AND CHEMICAL PROPERTIES \*\*\*

<b>Physical State:</b> Liquid	<b>Appearance:</b> Not available
<b>Color:</b> colorless	<b>Physical Form:</b> liquid
<b>Odor:</b> gasoline odor	<b>Odor Threshold:</b> 2.2 - 5000 ppm
<b>pH:</b> Not available	<b>Melting Point:</b> -129.7 °C
<b>Boiling Point:</b> 36.07 °C	<b>Flash Point:</b> <-40 °C (CC)
<b>Evaporation Rate:</b> 28.6 (butyl acetate=1)	<b>OSHA Flammability Class:</b> IA
<b>LEL:</b> 1.4 %	<b>UEL:</b> 7.8 %
<b>Vapor Pressure:</b> 400 mmHg @ 18.5 °C	<b>Vapor Density (air = 1):</b> 2.5
<b>Density:</b> Not available	<b>Specific Gravity (water = 1):</b> 0.626
<b>Water Solubility:</b> 0.04 %	<b>Coeff. Water/Oil Dist:</b> Not available
<b>Auto Ignition:</b> 260 °C	<b>Viscosity:</b> <32 SUS
<b>Volatility:</b> Not available	<b>Molecular Weight:</b> 72.15
<b>Molecular Formula:</b> C5-H12	

## Solvent Solubility

**Soluble:** alcohol, ether, acetone, benzene, chloroform

## \*\*\* Section 10 - STABILITY AND REACTIVITY \*\*\*

### Chemical Stability

Stable at normal temperatures and pressure.

### Conditions to Avoid

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

### Materials to Avoid

oxidizing materials, combustible materials.

### Decomposition Products

oxides of carbon

### Possibility of Hazardous Reactions

Will not polymerize.

## \*\*\* Section 11 - TOXICOLOGICAL INFORMATION \*\*\*

### Component Analysis - LD50/LC50

The components of this material have been reviewed in various sources and the following selected endpoints are published:

#### n-Pentane (109-66-0)

Inhalation LC50 Rat: 364 g/m<sup>3</sup>/4H; Dermal LD50 Rabbit: 3000 mg/kg; Oral LD50 Rat: >2000 mg/kg

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## Acute Toxicity Level

n-Pentane (109-66-0)

Non Toxic: inhalation.

## Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, NTP, OSHA or DFG.

## Local Effects

n-Pentane (109-66-0)

Irritant: inhalation, skin.

## Target Organs

n-Pentane (109-66-0)

central nervous system.

## Medical Conditions Aggravated by Exposure

respiratory disorders, skin disorders and allergies

## Additional Data

Alcohol may enhance the toxic effects.

### \*\*\* Section 12 - ECOLOGICAL INFORMATION \*\*\*

## Component Analysis - Aquatic Toxicity

n-Pentane (109-66-0)

Fish: 96 Hr LC50 Oncorhynchus mykiss: 9.87 mg/L; 96 Hr LC50 Pimephales promelas: 11.59 mg/L; 96 Hr LC50 Lepomis macrochirus: 9.99 mg/L

Invertebrate: 48 Hr EC50 Daphnia magna: 9.74 mg/L

### \*\*\* Section 13 - DISPOSAL CONSIDERATIONS \*\*\*

## Disposal Methods

Dispose in accordance with all applicable regulations. Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.

## Component Waste Numbers

The U.S. EPA has not published waste numbers for this product's components.

### \*\*\* Section 14 - TRANSPORT INFORMATION \*\*\*

## US DOT Information

Shipping Name: Pentanes

UN/NA #: UN1265 Hazard Class: 3 Packing Group: II

Required Label(s): 3

## TDG Information

Shipping Name: Pentanes

UN #: UN1265 Hazard Class: 3 Packing Group: II

Required Label(s): 3

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## \*\*\* Section 15 - REGULATORY INFORMATION \*\*\*

### U.S. Federal Regulations

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65), CERCLA (40 CFR 302.4), TSCA 12(b), and/or require an OSHA process safety plan.

#### n-Pentane (109-66-0)

TSCA 12b: Section 4, 1 %

### SARA 311/312

Acute Health: Yes Chronic Health: No Fire: Yes Pressure: No Reactive: No

### U.S. State Regulations

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS	CA	MA	MN	NJ	PA	RI
n-Pentane	109-66-0	Yes	Yes	Yes	Yes	Yes	Yes

Not regulated under California Proposition 65

### Canada WHMIS

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

#### n-Pentane (109-66-0)

1 %

### Component Analysis - Inventory

Component	CAS	US	CA	EU	AU	PH	JP	KR	CN	NZ
n-Pentane	109-66-0	Yes	DSL	EIN	Yes	Yes	Yes	Yes	Yes	Yes

## \*\*\* Section 16 - OTHER INFORMATION \*\*\*

### Key / Legend

ACGIH - American Conference of Governmental Industrial Hygienists; ADR - European Road Transport; AU - Australia; BOD - Biochemical Oxygen Demand; C - Celsius; CA - Canada; CAS - Chemical Abstracts Service; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CN - China; CPR - Controlled Products Regulations; DFG - Deutsche Forschungsgemeinschaft; DOT - Department of Transportation; DSL - Domestic Substances List; EEC - European Economic Community; EINECS - European Inventory of Existing Commercial Chemical Substances; EPA - Environmental Protection Agency; EU - European Union; F - Fahrenheit; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; ICAO - International Civil Aviation Organization; IDL - Ingredient Disclosure List; IMDG - International Maritime Dangerous Goods; JP - Japan; Kow - Octanol/water partition coefficient; KR - Korea; LEL - Lower Explosive Limit; LOLI - List Of Lists™ - ChemADVISOR's Regulatory Database; MAK - Maximum Concentration Value in the Workplace; MEL - Maximum Exposure Limits; NFPA - National Fire Protection Agency; NIOSH - National Institute for Occupational Safety and Health; NJTSR - New Jersey Trade Secret Registry; NTP - National Toxicology Program; NZ - New Zealand; OSHA - Occupational Safety and Health Administration; PH - Philippines; RCRA - Resource Conservation and Recovery Act; RID - European Rail Transport; RTECS - Registry of Toxic Effects of Chemical Substances®; SARA - Superfund Amendments and Reauthorization Act; STEL - Short-term Exposure Limit; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act; TWA - Time Weighted Average; UEL - Upper Explosive Limit; US - United States

End of Sheet 00233339