



Safety Data Sheet

Prepared according to GHS

1. Identification

Product Name	Kensol® 13
Product Code	4104
Recommended Use	Asphalt Naphtha solvent
Company	American Refining Group, Inc. 77 North Kendall Avenue Bradford, PA 16701 www.amref.com msds@amref.com
Emergency Telephone Number(s)	Chemtrec 1-800-424-9300 (24 HRS) ARG: 814-368-1297 (24 HRS)

2. Hazards Identification

GHS Classification	Flammable Liquid Category 1 Skin Corrosion/Irritation Category 2 Specific Target Organ Toxicity Repeated or Prolonged Exposure 2 Aspiration Category 1 Carcinogenicity 2
Signal Word	DANGER!
Hazard Statements	Causes skin irritation Extremely flammable liquid and vapor May cause damage to thyroid, system, and central nervous system through prolonged or repeated exposure by inhalation May be fatal if swallowed and enters airways Suspected of causing cancer

GHS Pictogram



Precautionary Statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wear protective gloves/clothing/eye protection and face protection.
Wash thoroughly after handling.
Wear Protective Gloves.
If exposed or concerned: Get medical advice/attention.
If on skin: wash with plenty of soap and water.
If skin irritation occurs: get medical advice/attention.

2. Hazards Identification

If swallowed: Immediately call a poison center or doctor.
Do NOT induce vomiting.
Do not breathe vapors.
Get medical advice/attention if you feel unwell.
Take off contaminated clothing and wash before reuse.
Keep away from flames and hot surfaces.-No smoking
Keep container tightly closed.
Use explosion proof electrical/ventilating/lighting equipment.
If on skin: Take off immediately all contaminated clothing. Rinse skin with water/shower.
Store locked up.
Store in a well-ventilated place. Keep cool.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3. Composition / Information on Ingredients

CAS No.	Component	Common Name	Percent
64741-42-0	Naphtha, petroleum, full-range straight-run	Naphtha	100%

Hazardous Constituent(s) Contained in Complex Substances

CAS No.	Component	Percent
108-87-2	Methylcyclohexane	7-8
142-82-5	n-Heptane	7-8
111-65-9	n-Octane	7-8
111-84-2	n-Nonane	5
108-88-3	Toluene	2.5
110-54-3	n-Hexane	2
110-82-7	Cyclohexane	1.5
108-38-3	m-Xylene	2
109-66-0	n-Pentane	.6
71-43-2	Benzene	.16
100-41-4	Ethylbenzene	.33

4. First Aid Measures

Eyes Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention if irritation develops.

Skin In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if irritation develops.

Inhalation Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration

4. First Aid Measures

Ingestion

or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. DO NOT INDUCE VOMITING. If conscious, rinse out mouth with water. Seek medical attention immediately.

Symptoms(Acute and delayed)

Exposure to high concentrations of vapors may cause irritation to the eyes, nose and throat, nausea, dizziness.

Note to Physicians

No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire Fighting Measures

Suitable Extinguishing Media

Use dry chemical, CO₂, water spray (FOG) or foam

Unsuitable Extinguishing Media

Avoid solid water stream as it may scatter and spread fire.

Specific Hazards Arising from Chemical

Elevated temperatures can lead to the formation of irritating vapors. Decomposing products may include the following materials: Carbon dioxide and Carbon monoxide.

Protective Equipment and Precautions for Firefighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental Release Measures

Personal Precautions

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

Environmental Precautions

Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods for Containment

Stop leak if without risk.

Methods for Cleanup

A vapor suppressing foam may be used to reduce vapors. Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled container

7. Handling and Storage

Handling Procedures

Eating, drinking, and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Use non-sparking tools.

Shipping and Storing Procedures

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat. Protect from light. Keep

7. Handling and Storage

in properly labeled containers. Keep out of the reach of children.

Incompatibilities:

Oxidizing Agents

8. Exposure Controls / Personal Protection

Component Exposure Limits

Oil Mist (mineral)

ACGIH TLV:	TWA: N/A ppm	TWA: 5 mg/m ³	STEL: N/A ppm	STEL: 10 mg/m ³
OSHA PEL:	TWA: N/A ppm	TWA: 5 mg/m ³	STEL: N/A ppm	STEL: N/A mg/m ³
NIOSH REL:	TWA: N/A ppm	TWA: 5 mg/m ³	STEL: N/A ppm	STEL: 10 mg/m ³

N/A signifies not available

Petroleum Naphtha

OSHA PEL: TWA: 500 ppm TWA 2000 mg/m³
NIOSH REL: TWA 350 mg/m³ Ceiling: 1800 mg/m³

Methylcyclohexane

NIOSH REL: TWA 400 ppm
OSHA PEL: TWA 500 ppm

Octane

NIOSH REL: TWA 75 ppm
CEILING: 385 ppm [15 minute]
OSHA PEL: TWA 500 ppm

n-Nonane

NIOSH REL: TWA 200 ppm

Cyclohexane

NIOSH REL: TWA 300 ppm
OSHA PEL: TWA 300 ppm

Toluene

OSHA PEL Z2 (United States).
AMP: 500 ppm 10 minute(s). Issued/Revised: 6/1993
CEIL: 300 ppm Issued/Revised: 6/1993
TWA: 200 ppm 8 hour(s). Issued/Revised: 6/1993
ACGIH TLV (United States).
TWA: 20 ppm 8 hour(s). Issued/Revised: 11/2006

Xylene

ACGIH TLV (United States).
STEL: 651 mg/m³ 15 minute(s). Issued/Revised: 5/1996
STEL: 150 ppm 15 minute(s). Issued/Revised: 5/1996
TWA: 434 mg/m³ 8 hour(s). Issued/Revised: 5/1996
TWA: 100 ppm 8 hour(s). Issued/Revised: 5/1996

8. Exposure Controls / Personal Protection

OSHA PEL (United States).

TWA: 435 mg/m³ 8 hour(s). Issued/Revised: 6/1993

TWA: 100 ppm 8 hour(s). Issued/Revised: 6/1993

Benzene

ACGIH TLV (United States). Absorbed through skin.

STEL: 8 mg/m³ 15 minute(s). Issued/Revised: 5/1997

STEL: 2.5 ppm 15 minute(s). Issued/Revised: 5/1997

TWA: 1.6 mg/m³ 8 hour(s). Issued/Revised: 5/1997

TWA: 0.5 ppm 8 hour(s). Issued/Revised: 5/1997

OSHA PEL (United States).

STEL: 5 ppm 15 minute(s). Issued/Revised: 6/1993

TWA: 1 ppm 8 hour(s). Issued/Revised: 6/1993

OSHA PEL Z2 (United States).

AMP: 50 ppm 10 minute(s). Issued/Revised: 6/1993

CEIL: 25 ppm Issued/Revised: 6/1993

TWA: 10 ppm 8 hour(s). Issued/Revised: 6/1993

Pentane

ACGIH TLV (United States).

TWA: 600 ppm 8 hour(s). Issued/Revised: 9/1998

OSHA PEL (United States).

TWA: 2950 mg/m³ 8 hour(s). Issued/Revised: 6/1993

TWA: 1000 ppm 8 hour(s). Issued/Revised: 6/1993

Butane

ACGIH TLV (United States).

TWA: 1000 ppm 8 hour(s). Issued/Revised: 1/2004

OSHA PEL (United States).

TWA: State of Washington / Cal/OSHA : 800 ppm 8 hour(s).

STEL: 1000 ppm, (State of Washington) 15 minute(s).

Ethylbenzene

ACGIH TLV (United States).

STEL: 125 ppm 15 minute(s). Issued/Revised: 1/2002

TWA: 100 ppm 8 hour(s). Issued/Revised: 1/2002

OSHA PEL (United States).

TWA: 435 mg/m³ 8 hour(s). Issued/Revised: 6/1993

TWA: 100 ppm 8 hour(s). Issued/Revised: 6/1993

Trimethyl Benzene (all isomers)

ACGIH TLV: TWA: 25 ppm

n-Hexane

ACGIH TLV: TWA: 50 ppm

NIOSH REL: TWA: 50 ppm

8. Exposure Controls / Personal Protection

n-Heptane

OSHA PEL: TWA 500 ppm

NIOSH REL: TWA 85 ppm

CEILING: 440 ppm [15-min]

Engineering Controls

Material should be handled in enclosed vessels and equipment. Use only in adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Eye/Face Protection

Chemical goggles or face shield.

Skin Protection

Chemical resistant, impervious gloves complying with an approved standard should be worn at all times. Coveralls, apron, and boots as necessary to minimize contact.

Respiratory Protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicated this is necessary. Respirator selection must be based on known or anticipated exposure levels.

General Hygiene

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing.

9. Physical and Chemical Properties

Note: Physical and chemical properties are provided for safety, health and environmental considerations only and may not fully represent product specifications. Please see the Product Specification Sheet for further information.

Appearance	Colorless	Flammability	Not Available
Physical State	Liquid	Upper/Lower Flammability Limits	Not Available
Odor	Hydrocarbon Solvent	Vapor Pressure	50-100
Odor Threshold	Not Available	Vapor Density	Not Available
pH	Not Available	Relative Density (lbs/gal)	6.217
Melting/Freezing Point (°F)	Not Available	Water Soluble	No
Initial Boiling Point (°F)	170	Partition Coefficient: n-octanol/water	Not Available
Boiling Range (°F)	170 - 400	Auto-ignition Temperature (°F)	Not Available
Flash Point (°F)	25	Decomposition Temperature (°F)	Not Available
Evaporation Rate	Not Available	Viscosity (40°C mm²/s)	Not Available

10. Chemical Stability & Reactivity Information

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Reactivity	Polymerization will not occur
Chemical Stability	Stable under normal conditions
Hazardous Reactions	None, under normal processing.
Conditions to Avoid	High temperatures, flames, sparks
Incompatibility	Strong acids and oxidizing materials
Hazardous Decomposition Products	Smoke, carbon monoxide, carbon dioxide, aldehydes and other products of incomplete combustion.

11. Toxicological Information

Acute Exposure	
Respiratory Irritation	An inhalation hazard may only arise if product is used in aerosol conditions or if heated up. If material is misted or if vapors are generated from heating, exposure may cause irritation of mucous membranes and upper respiratory tract. Based on data from similar materials.
Eye Irritation	No data available to indicate product causes eye irritation.
Skin Irritation	Causes mild skin irritation.
Sensitization	Not expected to cause skin or respiratory sensitization.
Aspiration Hazards	If swallowed can be aspirated into lungs and cause chemical pneumonia, varying degrees of pulmonary injury or death. If swallowed, do NOT induce vomiting.

Chronic Exposure	
Target Organ Effects	Repeated and prolonged inhalation causes damage to thyroid, system, and central nervous system.

Systemic Lowest Observable Adverse Effect Level (LOAEL): 13,650 mg/m³
Systemic No Observable Adverse Effect Level (NOAEL): 2,275 mg/m³
Neurobehavioral NOAEL: 13,650 mg/m³

Carcinogenicity	Based on studies for similar substances, products similar as a whole have been tested as negative for carcinogenicity. However, this product contains cancer causing substances such as benzene and ethylbenzene. Risk of cancer depends on duration and level of exposure.
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Benzene: Long-term overexposure to benzene has been associated with certain types of leukemia in humans. In addition, the International Agency for Research on Cancer (IARC), the National Toxicology Program, and OSHA consider benzene to be a human carcinogen. Chronic exposures to high levels of benzene have been reported to cause adverse blood effects including anemia. Benzene exposure can occur by inhalation and absorption through the skin. Inhalation and forced feeding studies of benzene in laboratory animals have produced a carcinogenic response in a variety of organs, including possibly leukemia, other adverse effects on the blood, chromosomal changes and some effects on the immune system. Exposure to benzene at levels up to 300 ppm did not produce birth defects in animal studies; however, exposure to higher dosage levels resulted in a reduction of body weight of the rat pups (fetotoxicity). Changes in

the testes have been observed in mice exposed to benzene at 300 ppm, but reproductive performance was not altered in rats exposed to benzene at the same level. Aspiration of this material into the lungs can cause chemical pneumonia and can be fatal. Aspiration into the lungs can occur while vomiting after ingestion of this material.

Ethylbenzene: The National Toxicology Program (NTP) conducted a 13-week inhalation study with male and female rats and mice at exposure concentrations ranging from 100 to 1000 ppm ethylbenzene. No rats or mice died during the study. Kidney, liver, and lung weights were increased in the exposed rats, while weight increases were observed only in the livers of exposed mice. Treatment-related histopathologic changes were not observed in any tissues of rats and mice. NTP also exposed male and female rats and mice by inhalation to 0, 75, 250, or 750 ppm ethylbenzene for 2 years. There was a statistically significant increase in the number of kidney tumors in male and female rats at 750 ppm. There were also increased incidences of lung tumors in male mice and liver tumors in female mice that were statistically significant at 750 ppm. Except for the male rat kidney tumors, the incidence of the tumors were within the range observed for non-exposed animals from other studies conducted by NTP. The significance of these findings to humans is unknown. Ethylbenzene is not genotoxic. The International Agency for Research on Cancer (IARC) has evaluated ethylbenzene and found it to be possibly carcinogenic to humans (Group 2B).

Mutagenicity No data available to indicate product or any components present at greater than .1% are mutagenic or genotoxic.

Reproductive Toxicity No data available to indicate either product or components present at greater than .1% that may cause reproductive toxicity.

Teratogenicity No data available to indicate product or any components contained at greater than .1% may cause birth defects.

Analysis – LD50 / LC50

Inhalation LC50 Rat	>5.22	mg/L (4HR Mist)
Oral LD50 Rat	>5000	mg/kg
Dermal LD50 Rabbit	>2000	mg/kg

12. Ecological Information

Component Analysis - 64742-48-9 - Ecotoxicity – Aquatic Life

Duration/Test/Species	Concentration/Conditions
96 Hr LL50; WAF Aquatic Vertebrates	Not available mg/L
48 hr EL50; WAF <i>Daphnia magna</i>	Not available mg/L
72 hr Day EL-50 Fresh water algae	Not available mg/L

Persistence & Degradability
Bioaccumulation Potential
Soil Mobility
Other Adverse Effects




Inherently Biodegradable
Not Available
Not Available
Not Available

13. Disposal Considerations



Disposal Instructions

The generation of waste should be avoided or minimized wherever possible. Treatment, storage, transportation and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

14. Transportation Information

Emergency Response Guide No.		128		<i>North American Emergency Response Guide Book</i>		
	UN Number	Shipping Name (technical name)	Hazard Class	Packing Group	Placards/Label	
U.S. DOT Bulk (over 119 gallons)	1268	Petroleum Distillates N.O.S. (Naphtha)	3	II	 <p>Bulk container must be labeled on two opposing sides</p>	
U.S. DOT Non-Bulk (under 119 gallons)	1268	Petroleum Distillates N.O.S. (Naphtha)	3	II	 <p>Non-bulk container must be labeled on one side or end</p>	
IATA Non-Bulk (Max Net Quantity is 60L)	1268	Petroleum Distillates N.O.S. (Naphtha)	3	II	 <p>Non-bulk container must be labeled on one side or end</p>	

14. Transportation Information

IMDG Bulk (over 119 gallons)	1268	Petroleum Distillates N.O.S. (Naphtha)	3	II	 Bulk container must be labeled on two opposing sides
IMDG Non-Bulk (under 119 gallons)	1268	Petroleum Distillates N.O.S. (Naphtha)	3	II	 Non-bulk container must be labeled on one side or end

***Truck/Rail car must be placarded if aggregate gross weight exceeds 1,000 pounds**

15. Regulatory Information

SARA Section 311 & 312 Classifications

Acute Hazard Yes
Chronic Hazard Yes
Fire Hazard Yes
Reactivity Hazard No

California Prop 65

This product contains chemical(s) known to the state of California to cause cancer and/or birth defects based on maximum impurity levels of components.

Global Chemical Inventories

Inventory	
US TSCA	Listed*
EU	Listed
Japan	Not available
Australia	Listed
New Zealand	Listed
Canada	Listed
Switzerland	Not available
Korea	Listed
Philippines	Listed
China	Listed
Taiwan	Not available

* May be subject to TSCA 12b export notification. Contains Nonane (CASRN: 111-84-2)

16. Other Information

US NFPA Ratings

Health	Fire	Reactivity
1*	3	0

HMIS Ratings

Health	Fire	Physical Hazards
1	3	0

Revision Date 24 April 2015
Revision Reason New SDS

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of SDS