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SIGMA-ALDRICH

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Material Safety Data Sheet

Version 4.3
Revision Date 08/07/2012
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Petroleum Fraction

Product Number : 12270
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832
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Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8956

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Flammable liquid, Carcinogen, Target Organ Effect, Irritant, Teratogen, Mutagen

Target Organs

Central nervous system, Kidney, Heart, Blood, Peripheral nervous system., Testes. Central nervous system, Kidney, Heart, Blood, Peripheral nervous system., Testes., Eyes, Female reproductive system., Bone marrow

GHS Classification

Flammable liquids (Category 2)
Acute toxicity, Dermal (Category 5)
Skin irritation (Category 2)
Eye irritation (Category 2A)
Germ cell mutagenicity (Category 1B)
Carcinogenicity (Category 1A)
Reproductive toxicity (Category 2)
Specific target organ toxicity - single exposure (Category 2)
Aspiration hazard (Category 1)
Acute aquatic toxicity (Category 3)

GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H313 May be harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H340 May cause genetic defects.

H350 May cause cancer.
H361 Suspected of damaging fertility or the unborn child.
H371 May cause damage to organs.
H402 Harmful to aquatic life.

Precautionary statement(s)

P201 Obtain special instructions before use.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P281 Use personal protective equipment as required.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P331 Do NOT induce vomiting.

HMIS Classification

Health hazard: 2
Chronic Health Hazard: *
Flammability: 3
Physical hazards: 0

NFPA Rating

Health hazard: 2
Fire: 3
Reactivity Hazard: 0

Potential Health Effects

Inhalation May be harmful if inhaled. Causes respiratory tract irritation.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes eye irritation.
Ingestion May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	Concentration
Naphtha Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons hav	
CAS-No. 8030-30-6 EC-No. 232-443-2 Index-No. 649-262-00-3	60 - 100 %
n-Hexane	
CAS-No. 110-54-3 EC-No. 203-777-6 Index-No. 601-037-00-0	5 - 10 %
Benzene	
CAS-No. 71-43-2 EC-No. 200-753-7 Index-No. 601-020-00-8 Registration number 01-2119447106-44-XXXX	1 - 5 %

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

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In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES**Conditions of flammability**

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Naphtha Refined, partly refined, or unrefined petroleum products by the distillation of	8030-30-6	TWA	100 ppm 400 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

natural gas. It consists of hydrocarbons hav				
		TWA	100 ppm 400 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Remarks	The value in mg/m3 is approximate.			
		TWA	100 ppm 400 mg/m3	USA. NIOSH Recommended Exposure Limits
n-Hexane	110-54-3	TWA	50 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Central Nervous System impairment Eye irritation Peripheral neuropathy Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Danger of cutaneous absorption			
		TWA	50 ppm 180 mg/m3	USA. NIOSH Recommended Exposure Limits
		TWA	500 ppm 1,800 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	50 ppm 180 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Benzene	71-43-2	TWA	0.5 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Leukemia Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed human carcinogen Danger of cutaneous absorption			
		STEL	2.5 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Leukemia Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed human carcinogen Danger of cutaneous absorption			
		TWA	10 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2
	Z37.40-1969			
		CEIL	25 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2
	Z37.40-1969			
		Peak	50 ppm	USA. Occupational Exposure Limits (OSHA) - Table Z2
	Z37.40-1969			
	See 1910.1028. See Table Z-2 for the limits applicable in the operations or sectors excluded in 1910.1028 The final benzene standard in 1910.1028 applies to all occupational exposures to benzene except some subsegments of industry where exposures are consistently under the action level (i.e., distribution and sale of fuels, sealed containers and pipelines, coke production, oil and gas drilling and production, natural gas processing, and the percentage exclusion for liquid mixtures); for the excepted subsegments, the benzene limits in Table Z-2 apply.			
		TWA	0.1 ppm	USA. NIOSH Recommended Exposure Limits
	Potential Occupational Carcinogen See Appendix A			
		ST	1 ppm	USA. NIOSH Recommended Exposure Limits
	Potential Occupational Carcinogen See Appendix A			

Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form clear, liquid
Colour colourless

Safety data

pH no data available
Melting point/freezing point no data available
Boiling point 65 - 100 °C (149 - 212 °F)
Flash point -49.4 °C (-56.9 °F) - closed cup
Ignition temperature 246 °C (475 °F)
Autoignition temperature no data available
Lower explosion limit 1.1 %(V)
Upper explosion limit 8 %(V)
Vapour pressure 590.0 hPa (442.5 mmHg) at 20 °C (68 °F)
1,975.4 hPa (1,481.7 mmHg) at 55 °C (131 °F)
Density 0.692 g/mL at 20 °C (68 °F)
Water solubility no data available
Partition coefficient: n-octanol/water no data available
Relative vapour density 2.5
Odour no data available
Odour Threshold no data available
Evaporation rate no data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Vapours may form explosive mixture with air.

Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid

Strong oxidizing agents

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides
Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral - rat - > 5,000 mg/kg

Inhalation LC50

no data available

Dermal LD50

LD50 Dermal - rabbit - > 3,000 mg/kg

Other information on acute toxicity

no data available

Skin corrosion/irritation

Skin - rabbit - Skin irritation

Serious eye damage/eye irritation

Eyes - rabbit - Mild eye irritation

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

Carcinogenicity - mouse - Skin

Tumorigenic: Carcinogenic by RTECS criteria. Skin and Appendages: Other: Tumors.

Possible human carcinogen

IARC: 1 - Group 1: Carcinogenic to humans (Benzene)

NTP: Known to be human carcinogen (Benzene)

Reproductive toxicity

no data available

Teratogenicity

no data available

Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

Aspiration hazard

The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	May be harmful if swallowed. Aspiration hazard if swallowed - can enter lungs and cause damage.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure

Aspiration or inhalation may cause chemical pneumonitis., Prolonged or repeated exposure to skin causes defatting and dermatitis., Headache, Dizziness, Drowsiness, Nausea, slowed reaction time, slurred speech, giddiness, Unconsciousness

Synergistic effects

no data available

Additional Information

RTECS: Not available

12. ECOLOGICAL INFORMATION

Toxicity

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Harmful to aquatic life.

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 3295 Class: 3 Packing group: II
Proper shipping name: Hydrocarbons, liquid, n.o.s.
Reportable Quantity (RQ): 1000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 3295 Class: 3 Packing group: II EMS-No: F-E, S-D
Proper shipping name: HYDROCARBONS, LIQUID, N.O.S.
Marine pollutant: No

IATA

UN number: 3295 Class: 3 Packing group: II
Proper shipping name: Hydrocarbons, liquid, n.o.s.

15. REGULATORY INFORMATION

OSHA Hazards

Flammable liquid, Carcinogen, Target Organ Effect, Irritant, Teratogen, Mutagen

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Benzene	71-43-2	2007-07-01

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Benzene	71-43-2	2007-07-01
Naphtha Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons hav	8030-30-6	1993-04-24

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Benzene	71-43-2	2007-07-01
Naphtha Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons hav	8030-30-6	1993-04-24

New Jersey Right To Know Components

	CAS-No.	Revision Date
n-Hexane	110-54-3	2007-07-01
Benzene	71-43-2	2007-07-01
Naphtha Refined, partly refined, or unrefined petroleum products by the distillation of natural gas. It consists of hydrocarbons hav	8030-30-6	1993-04-24

California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	71-43-2	2009-02-01
Benzene		

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Benzene

CAS-No.
71-43-2

Revision Date
2009-02-01

16. OTHER INFORMATION

Further Information

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