Material Safety Data Sheet

Version 5.1
Revision Date 01/20/2012
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name	:	Aromatic Hydrocarbon Standard
Product Number	:	UST122
Brand	:	Fluka
Supplier	:	Sigma-Aldrich 3050 Spruce Street SAINT LOUIS MO 63103 USA
Telephone	:	+1 800-325-5832
Fax	:	+1 800-325-5052
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
Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

Target Organs

Liver, pancreas, Blood, Central nervous system, Heart, Kidney

GHS Classification
Acute toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2B)
Carcinogenicity (Category 1B)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

Pictogram

Signal word Danger

Hazard statement(s)

H302	Harmful if swallowed.
H315 + H320	Causes skin and eye irritation.
H350	May cause cancer.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201	Obtain special instructions before use.
P273	Avoid release to the environment.
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.
P501	Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical hazards:	1

NFPA Rating

Health hazard:	2
Fire:	0
Reactivity Hazard:	0

Potential Health Effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	Harmful if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component		Classification	Concentration
Methylene chloride			
CAS-No. EC-No. Index-No.	75-09-2 200-838-9 602-004-00-3	Carc. 2; H351	60 - 100 %
Indeno[1,2,3-cd]pyrene			
CAS-No. EC-No.	193-39-5 205-893-2	Carc. 2; H351	0.1 - 1 %
Benz[a]anthracene			
CAS-No. EC-No. Index-No.	56-55-3 200-280-6 601-033-00-9	Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H350, H410	0.1 - 1 %
Benzo[ghi]perylene			
CAS-No. EC-No.	191-24-2 205-883-8	Aquatic Acute 1; Aquatic Chronic 1; H410	0.1 - 1 %
Naphthalene			
CAS-No. EC-No. Index-No.	91-20-3 202-049-5 601-052-00-2	Carc. 2; Acute Tox. 4; Aquatic Acute 1; Aquatic Chronic 1; H302, H351, H410	0.1 - 1 %
Anthracene			
CAS-No. EC-No.	120-12-7 204-371-1	Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; Aquatic Acute 1; Aquatic Chronic 1; H315, H319, H335, H410	0.1 - 1 %
Dibenz[a,h]anthracene			
CAS-No. EC-No. Index-No.	53-70-3 200-181-8 601-041-00-2	Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H350, H410	0.1 - 1 %
Fluoranthene			
CAS-No. EC-No.	206-44-0 205-912-4	Acute Tox. 4; Aquatic Acute 1; H302, H400	0.1 - 1 %

Benzo[k]fluoranthene			
CAS-No. EC-No. Index-No.	207-08-9 205-916-6 601-036-00-5	Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H350, H410	0.1 - 1 %
Chrysene			
CAS-No. EC-No. Index-No.	218-01-9 205-923-4 601-048-00-0	Carc. 1B; Muta. 2; Aquatic Acute 1; Aquatic Chronic 1; H341, H350, H410	0.1 - 1 %
Benz[e]acephenanthrylene			
CAS-No. EC-No. Index-No.	205-99-2 205-911-9 601-034-00-4	Carc. 1B; Aquatic Acute 1; Aquatic Chronic 1; H350, H410	0.1 - 1 %
Pyrene			
CAS-No. EC-No.	129-00-0 204-927-3	Aquatic Acute 1; Aquatic Chronic 1; H410	0.1 - 1 %

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

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.

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
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability
Not flammable or combustible.

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, Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - no data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe 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
Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

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
Remarks	Potential Occupational Carcinogen See Appendix A			
Methylene chloride	75-09-2	TWA	50 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Central Nervous System impairment Carboxyhemoglobinemia Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans			
	Substance listed; for more information see OSHA document 1910.1052			
	See 1910.1052			
Pyrene	129-00-0	TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
Remarks	Cancer Substances for which there is a Biological Exposure Index or Indices (see BEI® section), see BEI® for Polycyclic Aromatic Hydrocarbons (PAHs) Exposure by all routes should be carefully controlled to levels as low as possible. Confirmed animal carcinogen with unknown relevance to humans			
Chrysene	218-01-9	TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
Anthracene	120-12-7	TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

Naphthalene	91-20-3	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Eye & Upper Respiratory Tract irritation Hematologic effects Eye damage Not classifiable as a human carcinogen Danger of cutaneous absorption			
		STEL	15 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Eye & Upper Respiratory Tract irritation Hematologic effects Eye damage Not classifiable as a human carcinogen Danger of cutaneous absorption			
		TWA	10 ppm 50 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		STEL	15 ppm 75 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	10 ppm 50 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	The value in mg/m3 is approximate.			
		TWA	10 ppm 50 mg/m3	USA. NIOSH Recommended Exposure Limits
		ST	15 ppm 75 mg/m3	USA. NIOSH Recommended Exposure Limits
Phenanthrene	85-01-8	TWA	0.2 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.2 mg/m3	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000

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, 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	liquid
Colour	no data available

Safety data

pH	no data available
Melting point/freezing point	no data available

Boiling point	no data available
Flash point	no data available
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	no data available
Density	no data available
Water solubility	no data available
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
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
no data available

Conditions to avoid
no data available

Materials to avoid
Strong oxidizing agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Hazardous decomposition products formed under fire conditions. - no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
no data available

Inhalation LC50
no data available

Dermal LD50
no data available

Other information on acute toxicity
no data available

Skin corrosion/irritation
no data available

Serious eye damage/eye irritation
Eyes: no data available

Respiratory or skin sensitization
no data available

Germ cell mutagenicity
no data available

Carcinogenicity

IARC:	2A - Group 2A: Probably carcinogenic to humans (Dibenz[a,h]anthracene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Methylene chloride)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Benz[e]acephenanthrylene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Chrysene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Benzo[k]fluoranthene)
	2B - Group 2B: Possibly carcinogenic to humans (Benzo[k]fluoranthene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Anthracene)
	2B - Group 2B: Possibly carcinogenic to humans (Anthracene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Naphthalene)
	2B - Group 2B: Possibly carcinogenic to humans (Naphthalene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Benzo[ghi]perylene)
	2B - Group 2B: Possibly carcinogenic to humans (Benzo[ghi]perylene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Benz[a]anthracene)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Indeno[1,2,3-cd]pyrene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Pyrene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Fluoranthene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Anthracene)
	2B - Group 2B: Possibly carcinogenic to humans (Anthracene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Benzo[ghi]perylene)
	2B - Group 2B: Possibly carcinogenic to humans (Benzo[ghi]perylene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Acenaphthene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Phenanthrene)
IARC:	3 - Group 3: Not classifiable as to its carcinogenicity to humans (Fluorene)
NTP:	Known to be human carcinogen (Pyrene)
NTP:	Known to be human carcinogen (Chrysene)
	Reasonably anticipated to be a human carcinogen (Chrysene)
NTP:	Known to be human carcinogen (Anthracene)
NTP:	Reasonably anticipated to be a human carcinogen (Methylene chloride)
NTP:	Reasonably anticipated to be human carcinogens. (Benz[e]acephenanthrylene)
	Reasonably anticipated to be a human carcinogen (Benz[e]acephenanthrylene)
NTP:	Known to be human carcinogen (Chrysene)
	Reasonably anticipated to be a human carcinogen (Chrysene)
NTP:	Reasonably anticipated to be human carcinogens. (Benzo[k]fluoranthene)
	Reasonably anticipated to be a human carcinogen (Benzo[k]fluoranthene)
NTP:	Reasonably anticipated to be human carcinogens. (Fluoranthene)
	Reasonably anticipated to be a human carcinogen (Fluoranthene)
NTP:	Reasonably anticipated to be human carcinogens. (Dibenz[a,h]anthracene)

	Reasonably anticipated to be a human carcinogen (Dibenz[a,h]anthracene)
NTP:	Reasonably anticipated to be a human carcinogen (Naphthalene)
NTP:	Reasonably anticipated to be a human carcinogen (Benzo[ghi]perylene)
NTP:	Reasonably anticipated to be human carcinogens. (Benz[a]anthracene)
	Reasonably anticipated to be a human carcinogen (Benz[a]anthracene)
NTP:	Reasonably anticipated to be human carcinogens. (Indeno[1,2,3-cd]pyrene)
	Reasonably anticipated to be a human carcinogen (Indeno[1,2,3-cd]pyrene)

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
no data available

Potential health effects

Inhalation	May be harmful if inhaled. Causes respiratory tract irritation.
Ingestion	Harmful if swallowed.
Skin	Harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.

Signs and Symptoms of Exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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.

Very toxic to aquatic life with long lasting effects.

13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2810 Class: 6.1 Packing group: III
Proper shipping name: Toxic, liquids, organic, n.o.s. (Methylene chloride, Benz[e]acephenanthrylene)
Reportable Quantity (RQ): 1000 lbs
Marine pollutant:
Poison Inhalation Hazard: No

IMDG
UN number: 2810 Class: 6.1 Packing group: III EMS-No: F-A, S-A
Proper shipping name: TOXIC LIQUID, ORGANIC, N.O.S. (Methylene chloride, Benz[e]acephenanthrylene)
Marine pollutant: Marine pollutant

IATA
UN number: 2810 Class: 6.1 Packing group: III
Proper shipping name: Toxic liquid, organic, n.o.s. (Methylene chloride, Benz[e]acephenanthrylene)

15. REGULATORY INFORMATION

OSHA Hazards
Carcinogen, Target Organ Effect, Harmful by ingestion., Irritant

SARA 302 Components
The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Pyrene	129-00-0	2007-03-01

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

	CAS-No.	Revision Date
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Chrysene	218-01-9	2007-03-01
Benzo[k]fluoranthene	207-08-9	2007-03-01
Fluoranthene	206-44-0	2007-03-01
Dibenz[a,h]anthracene	53-70-3	2007-03-01
Naphthalene	91-20-3	2007-07-01
Benz[a]anthracene	56-55-3	2007-03-01
Indeno[1,2,3-cd]pyrene	193-39-5	2007-03-01

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard
Reportable Quantity : lowest RQ > 999999 lbs

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01
Pyrene	129-00-0	2007-03-01
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Chrysene	218-01-9	2007-03-01
Benzo[k]fluoranthene	207-08-9	2007-03-01

Dibenz[a,h]anthracene	53-70-3	2007-03-01
Benz[a]anthracene	56-55-3	2007-03-01
Indeno[1,2,3-cd]pyrene	193-39-5	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01
Pyrene	129-00-0	2007-03-01
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Chrysene	218-01-9	2007-03-01
Benzo[k]fluoranthene	207-08-9	2007-03-01
Fluoranthene	206-44-0	2007-03-01
Dibenz[a,h]anthracene	53-70-3	2007-03-01
Anthracene	120-12-7	2007-07-01
Naphthalene	91-20-3	2007-07-01
Benzo[ghi]perylene	191-24-2	2007-03-01
Acenaphthene	83-32-9	2007-03-01
Phenanthrene	85-01-8	2007-07-01
Benz[a]anthracene	56-55-3	2007-03-01
Fluorene	86-73-7	2007-03-01
Indeno[1,2,3-cd]pyrene	193-39-5	2007-03-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
Methylene chloride	75-09-2	2007-07-01
Benz[e]acephenanthrylene	205-99-2	2007-03-01
Chrysene	218-01-9	2007-03-01
Benzo[k]fluoranthene	207-08-9	2007-03-01
Dibenz[a,h]anthracene	53-70-3	2007-03-01
Naphthalene	91-20-3	2007-07-01
Benz[a]anthracene	56-55-3	2007-03-01
Indeno[1,2,3-cd]pyrene	193-39-5	2007-03-01

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.	CAS-No.	Revision Date
Indeno[1,2,3-cd]pyrene	193-39-5	2007-09-28
Benz[a]anthracene	56-55-3	1990-01-01
Phenanthrene	85-01-8	1990-01-01
Benzo[ghi]perylene	191-24-2	1990-01-01
Naphthalene	91-20-3	1990-01-01
Anthracene	120-12-7	1990-01-01
Dibenz[a,h]anthracene	53-70-3	1990-01-01
Fluoranthene	206-44-0	1990-01-01
Benzo[k]fluoranthene	207-08-9	2007-09-28
Chrysene	218-01-9	2007-09-28
Benz[e]acephenanthrylene	205-99-2	2007-09-28
Pyrene	129-00-0	1990-01-01
Methylene chloride	75-09-2	2007-09-28

16. OTHER INFORMATION

Text of H-code(s) and R-phrase(s) mentioned in Section 3

Acute Tox.	Acute toxicity
Aquatic Acute	Acute aquatic toxicity
Aquatic Chronic	Chronic aquatic toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

H341	Suspected of causing genetic defects.
H350	May cause cancer.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
Muta.	Germ cell mutagenicity
Skin Irrit.	Skin irritation
STOT SE	Specific target organ toxicity - single exposure

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.