

# Safety Data Sheet

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

Trade name/designation:	Hexanes AR, ACS
Product No.:	H0033
Synonymes:	none
CAS No.	not applicable

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses:	General chemical reagent
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### 1.3 Details of the supplier of the safety data sheet

#### Supplier

#### Avantor Performance Materials India Ltd.

Street	501, 5th floor, Tiffany Building, Hiranandani Business Park,
Postal code/City	Thane, Maharashtra - 400607, India
Telephone	022-41288100

#### Emergency phone number

Telephone	1800105561
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#### Preparation Information

Product Information Compliance

1.4 E-mail	SDS@avantorsciences.com
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## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

#### Physical hazards

Flammable liquid, category 2

#### Health hazards

Aspiration hazard, category 1

Reproductive toxicity, category 2

Specific target organ toxicity (repeated exposure), category 2<sup>(1)</sup>

#### Environmental hazards

Hazardous to the aquatic environment, chronic, category 2

#### Target Organs

(1) no data available

### 2.2 Label elements

#### Hazard pictograms



**Signal word:** Danger

Highly flammable liquid and vapour.

May be fatal if swallowed and enters airways.

Suspected of damaging fertility.

May cause damage to organs through prolonged or repeated exposure.

Toxic to aquatic life with long lasting effects.

#### Prevention

Obtain special instructions before use.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Take precautionary measures against static discharge.

Wear protective gloves/protective clothing/eye protection/face protection.

Avoid release to the environment.

#### Response:

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water/...

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

IF exposed or concerned: Immediately call a POISON CENTER/doctor.

#### Storage:

Store in a well-ventilated place. Keep cool.

**2.3 Other hazards** The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

**SECTION 3: Composition / information on ingredients**

**Substances**

not applicable

**Mixtures**

**Hazardous ingredients**

Substance name	Identifier	Concentration	Hazard classes and hazard categories
Cyclohexane	CAS No.: 110-82-7	< 3%	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 STOT SE 3 - H336 Aquatic Chronic 1 - H410
n-Hexane	CAS No.: 110-54-3	45 - 60%	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 Repr. 2 - H361f STOT RE 2 - H373 STOT SE 3 - H336 Aquatic Chronic 2 - H411
Hexane (mixture of isomers)	CAS No.: 92112-69-1	15 - 40%	Flam. Liq. 2 - H225 Asp. Tox. 1 - H304 Skin Irrit. 2 - H315 Repr. 2 - H361f STOT RE 2 - H373 STOT SE 3 - H336 Aquatic Chronic 2 - H411

**SECTION 4: First aid measures**

**4.1 General information**

IF exposed: Immediately call a POISON CENTRE/doctor. If unconscious but breathing normally, place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

**After inhalation**

Immediately call a POISON CENTRE/doctor. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

**In case of skin contact**

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

**After eye contact**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

**In case of ingestion**

Immediately call a POISON CENTRE/doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. Give nothing to eat or drink.

**Self-protection of the first aider**

First aider: Pay attention to self-protection!

**4.2 Most important symptoms and effects, both acute and delayed**

no data available

**4.3 Indication of any immediate medical attention and special treatment needed**

no data available

**SECTION 5: Firefighting measures**

**5.1 Extinguishing media**

**Suitable extinguishing media**

Water spray  
 ABC-powder  
 Carbon dioxide (CO<sub>2</sub>)  
 Nitrogen

**Extinguishing media which must not be used for safety reasons**

no restriction

**5.2 Special hazards arising from the substance or mixture**

In case of fire may be liberated:  
 Pyrolysis products, toxic

**5.3 Advice for firefighters**

DO NOT fight fire when fire reaches explosives.  
 Special protective equipment for firefighters  
 Wear a self-contained breathing apparatus and chemical protective clothing.

**5.4 Additional information**

Do not allow run-off from fire-fighting to enter drains or water courses.  
 Do not inhale explosion and combustion gases.  
 Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.  
 Use water spray jet to protect personnel and to cool endangered containers.  
 In case of fire: Evacuate area.

**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

In case of major fire and large quantities: Remove persons to safety.

**6.2 Environmental precautions**

Discharge into the environment must be avoided.

### 6.3 Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Collect in closed and suitable containers for disposal.

### 6.4 Additional information

Clear spills immediately.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

All work processes must always be designed so that the following is as low as possible:

Inhalation

skin contact

Eye contact

Use extractor hood (laboratory).

If handled uncovered, arrangements with local exhaust ventilation have to be used.

If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means.

### 7.2 Conditions for safe storage, including any incompatibilities

Recommended storage temperature: Keep bottles tightly closed and away from sources of ignition and heat.

Keep container tightly closed and in a well-ventilated place. Keep/Store only in original container.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Does not contain substances above concentration limits fixing an occupational exposure limit.

### 8.2 Exposure controls

#### Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment. If handled uncovered, arrangements with local exhaust ventilation have to be used.

#### Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

#### *Eye/face protection*

Eye glasses with side protection

#### *Skin protection*

Wear suitable gloves. When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. In the case of wanting to use the gloves again, clean them before taking off and air them well. Check leak tightness/impermeability prior to use.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time::	> 480 min

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time::	> 480 min

*Respiratory protection*

no data available

*Additional information*

Wash hands before breaks and after work. Avoid contact with eyes and skin. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

*Environmental exposure controls*

no data available

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

(a) Appearance	
Physical state:	liquid
Colour:	colourless
(b) Odour:	characteristic
(c) Odour threshold:	no data available

**Safety relevant basic data**

(d) pH:	no data available
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	66-69 °C (1013 hPa)
(g) Flash point:	-18 °C (closed cup)
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapour.
(j) Flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	141.6 mmHg (20 °C)
(l) Vapour density:	no data available
(m) Relative density:	0.674 g/cm <sup>3</sup> (20 °C)
(n) Solubility(ies)	
Water solubility:	no data available
Soluble (g/L) in Ethanol:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	290 °C
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	0.42 cSt (40 °C)
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

## 9.2 Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry's Law Constant:	no data available

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

### 10.3 Possibility of hazardous reactions

no data available

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

no data available

### 10.6 Hazardous decomposition products

no data available

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute effects

##### *Acute oral toxicity:*

Cyclohexane - LD50: < 5000 mg/kg - Rat - (IUCLID)

n-Hexane - LD50: 16000 mg/kg - Rat - (OECD 401)

n-Hexane - LD50: > 25000 mg/kg - Rat - (RTECS)

Hexane (mixture of isomers) - LD50: 25 g/kg - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

##### *Acute dermal toxicity:*

Cyclohexane - LD50: < 2000 mg/kg - Rabbit - (IUCLID)

n-Hexane - LD50: > 3350 mg/kg - Rabbit - (OECD 402)

Hexane (mixture of isomers) - LD50: 3000 mg/kg - Rabbit - (National Library of Medicine ChemID Plus (NLM CIP))

##### *Acute inhalation toxicity:*

Cyclohexane - LC50: 13.9 mg/l - Rat - (IUCLID)

n-Hexane - LC50: 259.3 mg/l - Rat - (OECD 403)

n-Hexane - LC50: 48000 ppm - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

Hexane (mixture of isomers) - LC50: 48000 ppm - Rat - (National Library of Medicine ChemID Plus (NLM CIP))

**Irritant and corrosive effects**

*Primary irritation to the skin:*

not applicable

*Irritation to eyes:*

not applicable

*Irritation to respiratory tract:*

not applicable

**Respiratory or skin sensitisation**

In case of skin contact: not sensitising

After inhalation: not sensitising

**STOT-single exposure**

not applicable

**STOT-repeated exposure**

May cause damage to organs through prolonged or repeated exposure.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)****Carcinogenicity**

The table below indicates whether each agency has listed any ingredient as a carcinogen.

**Germ cell mutagenicity**

No indications of human germ cell mutagenicity exist.

**Reproductive toxicity**

Suspected of damaging fertility.

**Aspiration hazard**

May be fatal if swallowed and enters airways.

**Other adverse effects**

no data available



<b>SECTION 12: Ecological information</b>
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### 12.1 Ecotoxicity

**Fish toxicity:**

Cyclohexane - LC50: 42.3 mg/l (96 h)

n-Hexane - LC50: 57.8 mg/l (96 h) - Geiger, D.L., L.T. Brooke, and D.J. Call 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 5. Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior, Superior, WI :332 p.

Hexane (mixture of isomers) - LC50: 57.8 mg/l (96 h) - Geiger, D.L., L.T. Brooke, and D.J. Call 1990. Acute Toxicities of Organic Chemicals to Fathead Minnows (*Pimephales promelas*), Volume 5. Ctr.for Lake Superior Environ.Stud., Univ.of Wisconsin-Superior, Superior, WI :332 p.

**Daphnia toxicity:**

no data available

**Algae toxicity:**

no data available

**Bacteria toxicity:**

no data available

### 12.2 Persistence and degradability

no data available

### 12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water: no data available

### 12.4 Mobility in soil:

no data available

### 12.5 Results of PBT/vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

### 12.6 Other adverse effects

no data available

**SECTION 13: Disposal considerations**
**13.1 Waste treatment methods**
**Appropriate disposal / Product**

Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

**Appropriate disposal / Package**

Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information**
**Land transport (ADR/RID)**

14.1	UN-No.:	1208
14.2	Proper Shipping Name:	HEXANES
14.3	Class(es):	3
	Classification code:	F1
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Environmental hazards:	Dangerous for the environment
14.6	Special precautions for user:	
	Hazard identification number (Kemler No.):	33
	tunnel restriction code:	D/E (Passage forbidden through tunnels of category D when carried in bulk or in tanks. Passage forbidden through tunnels of category E.)

**Sea transport (IMDG)**

14.1	UN-No.:	1208
14.2	Proper Shipping Name:	HEXANES
14.3	Class(es):	3
	Classification code:	
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Environmental hazards:	Dangerous for the environment
	Marine pollutant:	Yes (P)
14.6	Special precautions for user:	
	Segregation group:	-
	EmS-No.	F-E S-D
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	not relevant

**Air transport (ICAO-TI / IATA-DGR)**

14.1	UN-No.:	1208
14.2	Proper Shipping Name:	HEXANES
14.3	Class(es):	3
	Classification code:	
	Hazard label(s):	3
14.4	Packing group:	II
14.5	Special precautions for user:	

**SECTION 15: Regulatory information**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**SECTION 16: Other information**

**Abbreviations and acronyms**

- H225 - Highly flammable liquid and vapour.
- H304 - May be fatal if swallowed and enters airways.
- H315 - Causes skin irritation.
- H336 - May cause drowsiness or dizziness.
- H361f - Suspected of damaging fertility.
- H373 - May cause damage to organs through prolonged or repeated exposure.
- H410 - Very toxic to aquatic life with long lasting effects.
- H411 - Toxic to aquatic life with long lasting effects.

- ACGIH - American Conference of Governmental Industrial Hygienists
- ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
- AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
- CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
- DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
- Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
- IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
- ICAO-TI - International Civil Aviation Organization-Technical Instructions
- IMDG - International Maritime Code for Dangerous Goods
- LTV - Long Term Value
- NIOSH - National Institute for Occupational Safety and Health
- OSHA - Occupational Safety & Health Administration
- PBT - Persistent, Bioaccumulative and Toxic
- RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
- STV - Short Term Value
- SVHC - Substances of Very High Concern
- vPvB - very Persistent, very Bioaccumulative

Training advice: Provide adequate information, instruction and training for operators.

**Classification according to Regulation (EC) No 1272/2008 [CLP] Classification procedure**

Hazard statements	Hazard classes and hazard categories	Classification procedure
H225	Flam. Liq. 2	Data obtained by expert judgement.
H304	Asp. Tox. 1	Calculation method.
H361f	Repr. 2	Calculation method.
H373	STOT RE 2	Calculation method.
H411	Aquatic Chronic 2	Calculation method.

**Additional information**

Indication of changes            general update

If you need an explanation of the change, contact the supplier.  
(SDS@avantorsciences.com)

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