

**SAFETY DATA SHEET**

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 03/29/2016

Version 1.2

**SECTION 1. Identification****Product identifier**

Product number	HX0299
Product name	Hexanes GR ACS
CAS-No.	110-54-3

**Relevant identified uses of the substance or mixture and uses advised against**

Identified uses	Reagent for analysis
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**Details of the supplier of the safety data sheet**

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5)
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Emergency telephone	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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**SECTION 2. Hazards identification****GHS Classification**

Flammable liquid, Category 2, H225  
Skin irritation, Category 2, H315  
Reproductive toxicity, Category 2, H361  
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336  
Specific target organ systemic toxicity - repeated exposure, Category 2, Inhalation, Central nervous system, H373  
Aspiration hazard, Category 1, H304

For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS-Labeling***Hazard pictograms**Signal Word*

Danger

*Hazard Statements*

H225 Highly flammable liquid and vapor.  
H304 May be fatal if swallowed and enters airways.

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H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs (Central nervous system) through prolonged or repeated exposure if inhaled.

### *Precautionary Statements*

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P233 Keep container tightly closed.

P240 Ground/bond container and receiving equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.

P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

P264 Wash skin thoroughly after handling.

P271 Use only outdoors or in a well-ventilated area.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P308 + P313 IF exposed or concerned: Get medical advice/ attention.

P321 Specific treatment (see supplemental first aid instructions on this label).

P331 Do NOT induce vomiting.

P332 + P313 If skin irritation occurs: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

### **Other hazards**

None known.

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### **SECTION 3. Composition/information on ingredients**

Formula

$\text{CH}_3(\text{CH}_2)_4\text{CH}_3$

$\text{C}_6\text{H}_{14}$  (Hill)

Molar mass

86.18 g/mol

### **Hazardous ingredients**

*Chemical Name (Concentration)*

CAS-No.

*n*-Hexane (>= 90 % - <= 100 % )

110-54-3

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

#### *Inhalation*

After inhalation: fresh air. Call in physician.

#### *Skin contact*

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/shower. Consult a physician.

#### *Eye contact*

After eye contact: rinse out with plenty of water. Call in ophthalmologist.

#### *Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Call a physician immediately. Pulmonary failure possible after aspiration of vomit.

Never give anything by mouth to an unconscious person.

### Most important symptoms and effects, both acute and delayed

irritant effects, somnolence, Drowsiness  
narcosis, Nausea, Tiredness, CNS disorders, paralysis symptoms  
Risk of corneal clouding.

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

### Indication of any immediate medical attention and special treatment needed

No information available.

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## SECTION 5. Fire-fighting measures

### Extinguishing media

#### *Suitable extinguishing media*

Foam, Carbon dioxide (CO<sub>2</sub>), Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Combustible.

Pay attention to flashback.

Vapors are heavier than air and may spread along floors.

Development of hazardous combustion gases or vapors possible in the event of fire.

Forms explosive mixtures with air at ambient temperatures.

### Advice for firefighters

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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### *Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

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

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders:

Protective equipment see section 8.

### **Environmental precautions**

Do not let product enter drains. Risk of explosion.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

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## **SECTION 7. Handling and storage**

### **Precautions for safe handling**

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

Observe label precautions.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

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

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

Store at room temperature.

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

*Ingredients*

Basis	Value	Threshold limits	Remarks
<i>n-Hexane 110-54-3</i>			
ACGIH	Time Weighted Average (TWA): Skin designation:	50 ppm	Can be absorbed through the skin.
NIOSH/GUIDE	Recommended exposure limit (REL):	50 ppm 180 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	500 ppm 1,800 mg/m <sup>3</sup>	
Z1A	Time Weighted Average (TWA):	50 ppm 180 mg/m <sup>3</sup>	

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

*Eye/face protection*

Safety glasses

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

*Other protective equipment:*

Flame retardant antistatic protective clothing.

*Respiratory protection*

required when vapors/aerosols are generated.

**SECTION 9. Physical and chemical properties**

Physical state	liquid
Color	colorless

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Odor	benzine-like
Odor Threshold	No information available.
pH	Not applicable
Melting point	-94.3 °C
Boiling point/boiling range	69 °C (69 °C) at 1,013 hPa
Flash point	-22 °C (-22 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	1.0 %(V)
Upper explosion limit	8.1 %(V)
Vapor pressure	160 hPa at 20 °C (20 °C)
Relative vapor density	2.79
Density	0.66 g/cm <sup>3</sup> at 20 °C (20 °C)
Relative density	No information available.
Water solubility	0.0095 g/l at 20 °C (20 °C)
Partition coefficient: n-octanol/water	log Pow: 4.11 (calculated) (Lit.) Potential bioaccumulation
Autoignition temperature	No information available.
Decomposition temperature	Distillable in an undecomposed state at normal pressure.
Viscosity, dynamic	0.326 mPa.s at 20 °C (20 °C)
Explosive properties	Not classified as explosive.
Oxidizing properties	none

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Ignition temperature

240 °C (240 °C)  
Method: DIN 51794

Viscosity, kinematic

0.50 mm<sup>2</sup>/s  
at 20 °C (20 °C)

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## SECTION 10. Stability and reactivity

### Reactivity

Vapors may form explosive mixture with air.

### Chemical stability

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

### Possibility of hazardous reactions

Risk of explosion with:

Strong oxidizing agents, nitrogen oxides

Violent reactions possible with:

halogens

Risk of ignition or formation of inflammable gases or vapors with:

SODIUM PEROXIDE

### Conditions to avoid

Warming.

### Incompatible materials

rubber, various plastics

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

Peripheral nervous system

#### *Acute oral toxicity*

LD50 Rat: 16,000 mg/kg

OECD Test Guideline 401

Symptoms: Nausea

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## *Acute inhalation toxicity*

LC50 Rat: 172 mg/l; 4 h ; vapor  
(RTECS)

Symptoms: Irritation symptoms in the respiratory tract.

## *Acute dermal toxicity*

LD50 Rabbit: > 2,000 mg/kg  
(ECHA)

absorption

## *Skin irritation*

Causes skin irritation.

## *Eye irritation*

Risk of corneal clouding.

## *Genotoxicity in vivo*

Micronucleus test  
Result: negative  
(National Toxicology Program)

## *Genotoxicity in vitro*

In vitro mammalian cell gene mutation test  
MOUSE LYMPHOMA TEST  
Result: Positive results were obtained in some in vitro tests.  
Method: OECD Test Guideline 476

## Ames test

Salmonella typhimurium  
Result: negative  
Method: OECD Test Guideline 471

## *CMR effects*

Teratogenicity:  
Suspected of damaging the unborn child.  
Reproductive toxicity:  
Suspected of damaging fertility.

## *Specific target organ systemic toxicity - single exposure*

Target Organs: Central nervous system  
May cause drowsiness or dizziness.

## *Specific target organ systemic toxicity - repeated exposure*

Target Organs: Nervous system  
May cause damage to organs through prolonged or repeated exposure.

## *Aspiration hazard*

Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

## **Carcinogenicity**

IARC

No ingredient of this product present at levels greater than or



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	equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
NTP	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
ACGIH	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

## Further information

After absorption:

Tiredness, narcosis

After long-term exposure to the chemical:

CNS disorders, paralysis symptoms

It generally applies for aliphatic hydrocarbons with 6 - 18 carbon atoms that they may cause pneumonia, in some cases also pulmonary oedema, upon direct inhalation, i.e. in conditions that can occur only in very special circumstances (nebulizations, spraying, inhalation of aerosols and similar). After absorption of very large quantities: narcosis.

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

*Toxicity to fish*

LC50 Pimephales promelas (fathead minnow): 2.5 mg/l; 96 h (ECOTOX Database)

*Toxicity to daphnia and other aquatic invertebrates*

EC50 Daphnia magna (Water flea): 2.1 mg/l; 48 h (Lit.)

### Persistence and degradability

No information available.

### Bioaccumulative potential

*Partition coefficient: n-octanol/water*

log Pow: 4.11

(calculated)

(Lit.) Potential bioaccumulation

### Mobility in soil

No information available.

### Other adverse effects

*Henry constant*

183000 Pa·m<sup>3</sup>/mol

(HSDB) Distribution preferentially in air.

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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**SECTION 14. Transport information**

**Land transport (DOT)**

UN number UN 1208  
Proper shipping name HEXANES  
Class 3  
Packing group II  
Environmentally hazardous --

**Air transport (IATA)**

UN number UN 1208  
Proper shipping name HEXANES  
Class 3  
Packing group II  
Environmentally hazardous --  
Special precautions for user no

**Sea transport (IMDG)**

UN number UN 1208  
Proper shipping name HEXANES  
Class 3  
Packing group II  
Environmentally hazardous --  
Special precautions for user yes  
EmS F-E S-D

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**SECTION 15. Regulatory information**

**United States of America**

**SARA 313**

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

*Ingredients*

n-Hexane	110-54-3	100 %
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**SARA 302**

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

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## Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

*Ingredients*

n-Hexane

### Pennsylvania Right To Know

*Ingredients*

n-Hexane

### New Jersey Right To Know

*Ingredients*

n-Hexane

### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

### Labeling

*Hazard pictograms*



*Signal Word*  
Danger

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## *Hazard Statements*

H225 Highly flammable liquid and vapor.

H304 May be fatal if swallowed and enters airways.

H315 Causes skin irritation.

H336 May cause drowsiness or dizziness.

H361 Suspected of damaging fertility or the unborn child.

H373 May cause damage to organs (Nervous system, Central nervous system) through prolonged or repeated exposure if inhaled.

H411 Toxic to aquatic life with long lasting effects.

## *Precautionary Statements*

### Prevention

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P240 Ground/bond container and receiving equipment.

P273 Avoid release to the environment.

### Response

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P314 Get medical advice/ attention if you feel unwell.

### Storage

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

## **Full text of H-Statements referred to under sections 2 and 3.**

H225

Highly flammable liquid and vapor.

H304

May be fatal if swallowed and enters airways.

H315

Causes skin irritation.

H336

May cause drowsiness or dizziness.

H361

Suspected of damaging fertility or the unborn child.

H373

May cause damage to organs through prolonged or repeated exposure if inhaled.

## **Key or legend to abbreviations and acronyms used in the safety data sheet**

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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