

1 Identification

- **Product identifier**
- **Product Name:** State of Texas, C6-C35 Alkanes
- **Part Number:** TX-HC-18
- **Application of the substance / the mixture** Certified Reference Material
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SPEX CertiPrep, LLC.
203 Norcross Ave, Metuchen,
NJ 08840 USA
- **Information department:** product safety department
- **Emergency telephone number:**
Emergency Phone Number (24 hours)
CHEMTREC (800-424-9300)
Outside US: 703-527-3887

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

STOT SE 3 H336 May cause drowsiness or dizziness.

- **Label elements**

- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS02



GHS07



GHS08

- **Signal word** Danger

- **Hazard-determining components of labeling:**

pentane
heptane
hexadecane
n-hexane

- **Hazard statements**

H225 Highly flammable liquid and vapor.
H361 Suspected of damaging fertility or the unborn child.
H336 May cause drowsiness or dizziness.
H304 May be fatal if swallowed and enters airways.

- **Precautionary statements**

If medical advice is needed, have product container or label at hand.
Keep out of reach of children.
Read label before use.
Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
If swallowed: Immediately call a poison center/doctor.
Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

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- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	4	Fire = 4
REACTIVITY	0	Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

109-66-0	pentane	98.2%
110-54-3	n-hexane	0.1%

- **Chemical identification of the substance/preparation**

112-40-3	dodecane	0.1%
112-95-8	icosane	0.1%
629-78-7	Heptadecane	0.1%
142-82-5	heptane	0.1%
544-76-3	hexadecane	0.1%
629-99-2	n-Pentacosane	0.1%
629-62-9	pentadecane	0.1%
630-07-9	n-Pentatriacontane	0.1%
629-59-4	tetradecane	0.1%
629-50-5	tridecane	0.1%
1120-21-4	undecane	0.1%
629-92-5	nonadecane	0.1%
111-84-2	nonane	0.1%
630-02-4	octacosane	0.1%
593-45-3	octadecane	0.1%
111-65-9	octane	0.1%
124-18-5	decane	0.1%

4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:** Immediately rinse with water.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **After swallowing:** Do not give anything to eat or drink - Do not induce vomiting
- **Information for Doctor:**
- **Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed** No further relevant information available.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:** CO₂, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

109-66-0	pentane	3000* ppm
112-40-3	dodecane	1.7 ppm
629-78-7	Heptadecane	4.3 ppm
142-82-5	heptane	500 ppm
544-76-3	hexadecane	35 mg/m ³
110-54-3	n-hexane	260 ppm
629-62-9	pentadecane	1.3 ppm
630-07-9	n-Pentatriacontane	30 mg/m ³
629-59-4	tetradecane	3.1 ppm
629-50-5	tridecane	0.0073 ppm
1120-21-4	undecane	2.3 ppm
111-84-2	nonane	600 ppm
630-02-4	octacosane	230 ppm
593-45-3	octadecane	230 ppm
111-65-9	octane	230 ppm
124-18-5	decane	6.6 ppm

· **PAC-2:**

109-66-0	pentane	33000*** ppm
112-40-3	dodecane	18 ppm
629-78-7	Heptadecane	48 ppm
142-82-5	heptane	830 ppm
544-76-3	hexadecane	380 mg/m ³
110-54-3	n-hexane	2900* ppm
629-62-9	pentadecane	15 ppm
630-07-9	n-Pentatriacontane	330 mg/m ³
629-59-4	tetradecane	34 ppm
629-50-5	tridecane	0.08 ppm
1120-21-4	undecane	26 ppm
111-84-2	nonane	830 ppm
630-02-4	octacosane	385 ppm
593-45-3	octadecane	385 ppm
111-65-9	octane	385 ppm
124-18-5	decane	73 ppm

· **PAC-3:**

109-66-0	pentane	200000*** ppm
112-40-3	dodecane	110 ppm
629-78-7	Heptadecane	290 ppm
142-82-5	heptane	5000* ppm
544-76-3	hexadecane	2,800 mg/m ³

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110-54-3	<i>n</i> -hexane	8600** ppm
629-62-9	pentadecane	87 ppm
630-07-9	<i>n</i> -Pentatriacontane	2,000 mg/m ³
629-59-4	tetradecane	200 ppm
629-50-5	tridecane	2.3 ppm
1120-21-4	undecane	150 ppm
111-84-2	nonane	5,000 ppm
630-02-4	octacosane	5,000 ppm
593-45-3	octadecane	5,000 ppm
111-65-9	octane	5000** ppm
124-18-5	decane	440 ppm

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
Prevent formation of aerosols.
- **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store in a cool location.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

109-66-0 pentane

PEL Long-term value: 2950 mg/m³, 1000 ppm
REL Long-term value: 350 mg/m³, 120 ppm
Ceiling limit value: 1800* mg/m³, 610* ppm
*15-min
TLV Long-term value: 2950 mg/m³, 1000 ppm

110-54-3 n-hexane

PEL Long-term value: 1800 mg/m³, 500 ppm
REL Long-term value: 180 mg/m³, 50 ppm
TLV Long-term value: 176 mg/m³, 50 ppm
Skin; BEI

- **Ingredients with biological limit values:**

110-54-3 n-hexane

BEI 0.4 mg/L
Medium: urine
Time: end of shift at end of workweek
Parameter: 2.5-Hexanedione without hydrolysis

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

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Wash hands before breaks and at the end of work.

Store protective clothing separately.

- **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

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

- **General Information**

- **Appearance:**

Form: Liquid
Color: According to product specification

- **Odor:** Characteristic

- **Odour Threshold:** Not applicable.

- **pH-value:** Not applicable.

- **Change in condition**

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 36.1 °C (97 °F)

- **Flash point:** < 0 °C (<32 °F)

- **Flammability (solid, gaseous):** Not applicable.

- **Ignition temperature:** 285 °C (545 °F)

- **Decomposition temperature:** Not applicable.

- **Auto igniting:** Product is not selfigniting.

- **Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

- **Explosion limits:**

Lower: 1.4 Vol %
Upper: 7.8 Vol %

- **Vapor pressure at 20 °C (68 °F):** 573 hPa (429.8 mm Hg)

- **Density** Not applicable.

- **Relative density** Not applicable.

- **Vapor density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with**

Water: Not miscible or difficult to mix.

- **Partition coefficient (n-octanol/water):** Not applicable.

- **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

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· **Solvent content:**
Organic solvents: 98.8 %
VOC content: 98.80 %

· **Solids content:** 0.4 %
 · **Other information** No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
 The product shows the following dangers according to internally approved calculation methods for preparations:
 Product is suspected to cause damage to fertility.
 Product is suspected to cause birth defects.
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 Water hazard class 2 (Self-assessment): hazardous for water
 Do not allow product to reach ground water, water course or sewage system.
 Danger to drinking water if even small quantities leak into the ground.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

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- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

<ul style="list-style-type: none"> · UN-Number · DOT, ADR, IMDG, IATA 	<p align="center">UNI265</p>
<ul style="list-style-type: none"> · UN proper shipping name · DOT · ADR · IMDG · IATA 	<p align="center">Pentanes 1265 Pentanes, ENVIRONMENTALLY HAZARDOUS PENTANES, MARINE POLLUTANT PENTANES</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT 	<div style="text-align: center;"> </div>
<ul style="list-style-type: none"> · Class · Label 	<p align="center">3 Flammable liquids 3</p>
<ul style="list-style-type: none"> · ADR, IMDG 	<div style="text-align: center;"> </div>
<ul style="list-style-type: none"> · Class · Label 	<p align="center">3 Flammable liquids 3</p>
<ul style="list-style-type: none"> · IATA 	<div style="text-align: center;"> </div>
<ul style="list-style-type: none"> · Class · Label 	<p align="center">3 Flammable liquids 3</p>
<ul style="list-style-type: none"> · Packing group · DOT, ADR, IMDG, IATA 	<p align="center">II</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR): 	<p align="center">Product contains environmentally hazardous substances: heptane, pentane Symbol (fish and tree) Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · Danger code (Kemler): · EMS Number: · Stowage Category 	<p align="center">Warning: Flammable liquids 33 F-E,S-D E</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p align="center">Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: 	
<ul style="list-style-type: none"> · ADR · Excepted quantities (EQ) 	<p align="center">Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p align="center">1L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml</p>

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· UN "Model Regulation":

UN 1265 PENTANES, 3, II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· Sara

· Section 313 (Specific toxic chemical listings):

110-54-3 n-hexane

· TSCA (Toxic Substances Control Act):

109-66-0 pentane

112-40-3 dodecane

112-95-8 icosane

629-78-7 Heptadecane

142-82-5 heptane

544-76-3 hexadecane

110-54-3 n-hexane

629-99-2 n-Pentacosane

629-62-9 pentadecane

629-59-4 tetradecane

629-50-5 tridecane

1120-21-4 undecane

629-92-5 nonadecane

111-84-2 nonane

630-02-4 octacosane

593-45-3 octadecane

111-65-9 octane

124-18-5 decane

· Proposition 65

· Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

110-54-3 n-hexane

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

· EPA (Environmental Protection Agency)

142-82-5 heptane

D

110-54-3 n-hexane

II

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms



GHS02



GHS07



GHS08

· Signal word Danger

· Hazard-determining components of labeling:

pentane

heptane

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*hexadecane**n-hexane*

- **Hazard statements**

*H225 Highly flammable liquid and vapor.**H361 Suspected of damaging fertility or the unborn child.**H336 May cause drowsiness or dizziness.**H304 May be fatal if swallowed and enters airways.*

- **Precautionary statements**

*If medical advice is needed, have product container or label at hand.**Keep out of reach of children.**Read label before use.**Keep away from heat/sparks/open flames/hot surfaces. - No smoking.**If swallowed: Immediately call a poison center/doctor.**Do NOT induce vomiting.**If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.**Store locked up.**Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Department issuing SDS:** product safety department

- **Contact:**

*SPEX CertiPrep, LLC.**1-732-549-7144*

- **Date of preparation / last revision** 01/07/2019 / -

- **Abbreviations and acronyms:**

*ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)**IMDG: International Maritime Code for Dangerous Goods**DOT: US Department of Transportation**IATA: International Air Transport Association**ACGIH: American Conference of Governmental Industrial Hygienists**EINECS: European Inventory of Existing Commercial Chemical Substances**ELINCS: European List of Notified Chemical Substances**CAS: Chemical Abstracts Service (division of the American Chemical Society)**NFPA: National Fire Protection Association (USA)**HMIS: Hazardous Materials Identification System (USA)**VOC: Volatile Organic Compounds (USA, EU)**PBT: Persistent, Bioaccumulative and Toxic**vPvB: very Persistent and very Bioaccumulative**NIOSH: National Institute for Occupational Safety**OSHA: Occupational Safety & Health**TLV: Threshold Limit Value**PEL: Permissible Exposure Limit**REL: Recommended Exposure Limit**BEI: Biological Exposure Limit**Flam. Liq. 2: Flammable liquids – Category 2**Repr. 2: Reproductive toxicity – Category 2**STOT SE 3: Specific target organ toxicity (single exposure) – Category 3**Asp. Tox. 1: Aspiration hazard – Category 1*