

SAFETY DATA SHEET

1. Identification

Product identifier n-HEXANE, VERITAS® ULTIMATE

Other means of identification

Product code 5568

Synonyms A MIXTURE OF HEXANE ISOMERS AND METHYLCYCLOPENTANE

Recommended use Not available. **Recommended restrictions** None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name GFS Chemicals, Inc. **Address** P.O. Box 245 Powell, OH 43065

United States

Telephone Phone 740-881-5501

> Toll Free 800-858-9682 Fax 740-881-5989

Website www.gfschemicals.com E-mail service@gfschemicals.com

Emergency phone Emergency Assistance Chemtrec 800-424-9300

number

2. Hazard(s) identification

Physical hazards Flammable liquids Category 2 **Health hazards** Acute toxicity, oral Category 2

Skin corrosion/irritation Category 2 Serious eye damage/eye irritation Category 2A Reproductive toxicity (fertility) Category 2

Specific target organ toxicity, single exposure Category 3 narcotic effects

Specific target organ toxicity, repeated

Category 1

exposure

Aspiration hazard Category 1 Hazardous to the aquatic environment, acute

Environmental hazards hazard Category 2

Hazardous to the aquatic environment,

Category 2

long-term hazard

OSHA defined hazards Not classified.

Label elements



Signal word

Hazard statement Highly flammable liquid and vapor. Fatal if swallowed. May be fatal if swallowed and enters

> airways. Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility. Causes damage to organs through prolonged or repeated

exposure. Toxic to aquatic life. Toxic to aquatic life with long lasting effects.

Material name: n-HEXANE, VERITAS® ULTIMATE 5568 Version #: 01 Revision date: Issue date: December-22-2014 1/9

Precautionary statement

Prevention Use explosion-proof electrical/ventilating/lighting equipment. Wash thoroughly after handling.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe mist or vapor. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face

protection.

In case of fire: Use appropriate media for extinction. IF SWALLOWED: Immediately call a POISON Response

> CENTER or doctor/physician. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If exposed or concerned: Get medical advice/attention. Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Collect spillage.

Storage Store in a well-ventilated place. Keep container tightly closed. Store in a well-ventilated place. Keep

cool. Store locked up.

Disposal Dispose of contents/container to an appropriate treatment and disposal facility in accordance with

applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.

Supplemental information None.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
n-HEXANE	A MIXTURE OF HEXANE ISOMERS AND	110-54-3	100
	METHYLCYCLOPENTANE		

^{*}Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON

CENTER or doctor/physician if you feel unwell.

Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation Skin contact

occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if **Eye contact**

present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If **Ingestion**

vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Do not use mouth-to-mouth method if victim indested the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Most important

symptoms/effects, acute and

delayed

May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Irritation of nose and throat. Skin irritation. May cause redness and pain. Prolonged exposure may cause chronic effects.

Indication of immediate medical attention and special

treatment needed

Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information

Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may

be used for small fires only.

Unsuitable extinguishing

media

Do not use water jet as an extinguisher, as this will spread the fire.

5568 Version #: 01 Revision date: Issue date: December-22-2014 2/9

Material name: n-HEXANE, VERITAS® ULTIMATE

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire fighting equipment/instructions

In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods
General fire hazards

Use standard firefighting procedures and consider the hazards of other involved materials.

Highly flammable liquid and vapor.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Refer to attached safety data sheets and/or instructions for use. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water. Should not be released into the environment. Prevent entry into waterways, sewers, basements or confined areas.

Large Spills: Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Clean up in accordance with all applicable regulations. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Never return spills in original containers for re-use.

Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases. Use appropriate containment to avoid environmental contamination.

Material name: n-HEXANE, VERITAS® ULTIMATE

5568 Version #: 01 Revision date: Issue date: December-22-2014 3 / 9

7. Handling and storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".

Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for A Material	Air Contaminants (29 CFR 191 Type	.0.1000) Value	
n-HEXANE (CAS 110-54-3)	PEL	1800 mg/m3 500 ppm	
US. ACGIH Threshold Limit Valu	ies		
Material	Туре	Value	
n-HEXANE (CAS 110-54-3)	TWA	50 ppm	
US. NIOSH: Pocket Guide to Ch	emical Hazards		
Material	Туре	Value	
n-HEXANE (CAS 110-54-3)	TWA	180 mg/m3	
		50 ppm	

Biological limit values

US. ACGIH. BEIs. Biological Exposure Indices			
Material Value	Determinant	Specimen	Sampling Time
n-HEXANE (CAS 110-54-3) 0.4 mg/l	2,5-Hexanedion , without hydrolysis	Urine	*

^{* -} For sampling details, please see the source document.

Exposure guidelines

US. ACGIH Threshold Limit Values

n-HEXANE (CAS 110-54-3)

Can be absorbed through the skin.

US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants

N-HEXANE (CAS 110-54-3)

Can be absorbed through the skin.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Material name: n-HEXANE, VERITAS® ULTIMATE

5568 Version #: 01 Revision date: Issue date: December-22-2014 4 / 9

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection In case of insufficient ventilation wear suitable respiratory equipment. Chemical respirator with

organic vapor cartridge and full facepiece.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash

work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

AppearanceClear.Physical stateLiquid.FormLiquid.ColorColorless.

Odor Gasoline-like odor.
Odor threshold Not available.
pH Not available.

Melting point/freezing point Initial boiling point and

boiling range

-137.74 °F (-94.3 °C) 155.66 °F (68.7 °C)

Flash point -7.0 °F (-21.7 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower

Flammability limit -

(%)

7.5 %

upper (%)

Explosive limit - lower

(%)

Not available.

Explosive limit - upper

(%)

Not available.

Vapor pressure 20.13 kPa at 25 °C

Vapor density 2.97

Relative density Not available.

Solubility(ies)

Solubility (water) 0.02 g/l **Partition coefficient** 3.9

(n-octanol/water)

Auto-ignition temperature437 °F (225 °C)Decomposition temperatureNot available.ViscosityNot available.

Other information

Density0.65 g/cm3Dynamic viscosity0.33 mPa.sDynamic viscosity68 °F (20 °C)

temperature

Flammability class Flammable IB estimated

Flash point class Flammable IB Heat of combustion 41.1 kJ/g

(NFPA 30B)

Kinematic viscosity 0.4979 mm²/s estimated

Molecular formula C6-H14

Version #: 01 Revision date: Issue date: December-22-2014

5/9

Material name: n-HEXANE, VERITAS® ULTIMATE

Molecular weight86.17 g/molPercent volatile100 %Specific gravity0.66

10. Stability and reactivity

ReactivityThe product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability Stable at normal conditions.

Possibility of hazardous

reactions

Hazardous polymerization does not occur.

Conditions to avoid Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash

point. Contact with incompatible materials.

Incompatible materials Strong oxidizing agents.

Hazardous decomposition

products

Product

No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

Inhalation May cause damage to organs through prolonged or repeated exposure by inhalation. May cause

drowsiness and dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful.

Skin contact Causes skin irritation.

Eye contact Causes serious eye irritation.

Ingestion Fatal if swallowed. Droplets of the product aspirated into the lungs through ingestion or vomiting

may cause a serious chemical pneumonia.

Symptoms related to the physical, chemical and toxicological characteristics

May cause drowsiness and dizziness. Headache. Nausea, vomiting. Aspiration may cause

pulmonary edema and pneumonitis. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Irritation of nose and throat. Skin irritation. May cause

Test Results

redness and pain.

Species

Information on toxicological effects

Acute toxicity Fatal if swallowed. Narcotic effects.

Product	Species	rest Results
n-HEXANE (CAS 110-54-3)		
Acute		
Inhalation		
LC50	Mouse	48000 ppm, 4 Hours
		48000 mg/l, 4 Hours
	Rat	<= 48000 mg/l, 4 Hours
Oral		
LD50	Rat	28710 mg/kg
		43.5 mg/kg
		24 mg/kg
	Wistar rat	49 mg/kg

^{*} Estimates for product may be based on additional component data not shown.

Skin corrosion/irritationCauses skin irritation. **Serious eye damage/eye**Causes serious eye irritation.

irritation

Respiratory or skin sensitization

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

Germ cell mutagenicityNo data available to indicate product or any components present at greater than 0.1% are

mutagenic or genotoxic.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity Suspected of damaging fertility. **Specific target organ toxicity** May cause drowsiness and dizziness.

- single exposure

Causes damage to organs through prolonged or repeated exposure.

- repeated exposure

Specific target organ toxicity

Material name: n-HEXANE, VERITAS® ULTIMATE

5568 Version #: 01 Revision date: Issue date: December-22-2014 6 / 9

Aspiration hazard May be fatal if swallowed and enters airways.

Chronic effects Prolonged inhalation may be harmful. Causes damage to organs through prolonged or repeated

exposure.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Product Species Test Results

n-HEXANE (CAS 110-54-3)

Aquatic

LC50 Fish Fathead minnow (Pimephales promelas) 2.101 - 2.981 mg/l, 96 hours

Persistence and degradability None known. **Bioaccumulative potential** Not available.

Partition coefficient n-octanol / water (log Kow)

3.9

Mobility in soil No data available.

Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation

potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this

material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with

chemical or used container. Dispose of contents/container in accordance with

local/regional/national/international regulations.

Dispose in accordance with all applicable regulations. Local disposal regulations

Hazardous waste code The waste code should be assigned in discussion between the user, the producer and the waste

disposal company.

Waste from residues /

unused products instructions).

residues. This material and its container must be disposed of in a safe manner (see: Disposal

Contaminated packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

Since emptied containers may retain product residue, follow label warnings even after container is

Dispose of in accordance with local regulations. Empty containers or liners may retain some product

emptied.

14. Transport information

DOT

UN number UN1208 **UN proper shipping name** Hexanes

Transport hazard class(es)

Class 3 **Subsidiary risk** Label(s) 3 Packing group II

Special precautions for

user

Read safety instructions, SDS and emergency procedures before handling.

Special provisions IB2, T4, TP1 **Packaging exceptions** 150 Packaging non bulk 202 **Packaging bulk** 242

IATA

UN1208 **UN** number **UN** proper shipping name Hexanes

Transport hazard class(es)

Class 3 Subsidiary risk ΙΙ **Packing group Environmental hazards** No. **ERG Code** 3H

Material name: n-HEXANE, VERITAS® ULTIMATE

Special precautions for Read safety instructions, SDS and emergency procedures before handling.

user

^{*} Estimates for product may be based on additional component data not shown.

Other information

Passenger and cargo Allowed.

aircraft

Cargo aircraft only Allowed.

IMDG

UN number UN1208 **UN proper shipping name** HEXANES

Transport hazard class(es)
Class 3
Subsidiary risk Packing group II
Environmental hazards

Marine pollutant No. mS F-E, S-D

Special precautions for Read safety instructions, SDS and emergency procedures before handling.

user

Transport in bulk according to Not established.

Annex II of MARPOL 73/78

and the IBC Code

DOT



IATA; IMDG



15. Regulatory information

US federal regulationsThis product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard,

29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

n-HEXANE (CAS 110-54-3) Listed.

SARA 304 Emergency release notification

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes

Delayed Hazard - Yes Fire Hazard - Yes Pressure Hazard - No Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Yes

Material name: n-HEXANE, VERITAS® ULTIMATE

Hazardous chemical

5568 Version #: 01 Revision date: Issue date: December-22-2014 8 / 9

Chemical name	CAS number	% by wt.	
n-HEXANE	110-54-3	100	

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

n-HEXANE (CAS 110-54-3)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act

Contaminate candidate list

(SDWA)

US state regulations

US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not listed.

US. Massachusetts RTK - Substance List

n-HEXANE (CAS 110-54-3)

US. New Jersey Worker and Community Right-to-Know Act

n-HEXANE (CAS 110-54-3)

US. Pennsylvania Worker and Community Right-to-Know Law

n-HEXANE (CAS 110-54-3)

US. Rhode Island RTK

n-HEXANE (CAS 110-54-3)

US. California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

^{*}A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date December-22-2014

Version # 01

Disclaimer GFS Chemicals cannot anticipate all conditions under which this information and its product, or the

products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the

sheet was written based on the best knowledge and experience currently available.

Revision Information Product and Company Identification: Product and Company Identification

5568 Version #: 01 Revision date: Issue date: December-22-2014 9 / 9

Material name: n-HEXANE, VERITAS® ULTIMATE