

This safety data sheet was created pursuant to the requirements of: OSHA HCS2012

Revision date 18-Apr-2024 Revision Number 1.01

1. Identification

Product identifier

Product Name PCB No. 143 10 μg/mL in Isooctane

Other means of identification

Product Code(s) DRE-L20014300IO

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use This product is for research and development only

Restrictions on use Not to be used for human or animal consumption

Details of the supplier of the safety data sheet

Supplier Address

VHG LGC Standards 276 Abby Road Manchester, NH 03103 UNITED STATES OF AMERICA

Tel:+1 (603) 622-7660 Fax:+1 (603) 622-5180 Email: lgcusa@lgcgroup.com

Web: Igcstandards.com

E-mail sds-request@lgcgroup.com

Emergency telephone number

Emergency Telephone

For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire Exposure, or Accident Call CHEMTREC: USA & Canada 1-800-424-9300 Rest of the world +1 703-741-5970

2. Hazard(s) identification

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Classification

Classified according to OSHA.

Skin corrosion/irritation	Category 2
Specific target organ toxicity (single exposure)	Category 3
Aspiration hazard	Category 1
Chronic aquatic toxicity	Category 1
Flammable liquids	Category 2

Hazards not otherwise classified (HNOC)

Not applicable

Label elements

Danger

Hazard statements

Classified according to OSHA.

Causes skin irritation

May cause drowsiness or dizziness

Very toxic to aquatic life with long lasting effects

May be fatal if swallowed and enters airways

Highly flammable liquid and vapor



Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

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

Keep container tightly closed

Ground and bond container and receiving equipment

Use only non-sparking tools

Take action to prevent static discharges

Wear protective gloves/eye protection/face protection

Keep cool

Precautionary Statements - Response

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If skin irritation occurs: Get medical advice/attention

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

Wash contaminated clothing before reuse

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

Call a POISON CENTER or doctor if you feel unwell

IF SWALLOWED: Immediately call a POISON CENTER or doctor

Do NOT induce vomiting

In case of fire: Use CO2, dry chemical, or foam to extinguish

Precautionary Statements - Storage

Store locked up

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

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Other information

Very toxic to aquatic life.

3. Composition/information on ingredients

Substance

Not applicable.

<u>Mixture</u>

Chemical nature Mixture of organic compounds.

Chemical name	CAS No.	Weight-%	Trade secret
2,2,4-Trimethylpentane	540-84-1	80 - 100	*

4. First-aid measures

Description of first aid measures

General advice Show this safety data sheet to the doctor in attendance. Immediate medical attention is

required.

Inhalation Remove to fresh air. Aspiration into lungs can produce severe lung damage. If breathing

has stopped, give artificial respiration. Get medical attention immediately. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, (trained personnel should) give oxygen. Get immediate medical attention. Delayed

pulmonary edema may occur.

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Eve contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep

eye wide open while rinsing. Do not rub affected area.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes

and shoes. Get medical attention if irritation develops and persists.

Ingestion

Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE. If vomiting occurs spontaneously, keep head below hips to prevent aspiration.

Get immediate medical attention.

Self-protection of the first aider

Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid contact with skin,

eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms

Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

Indication of any immediate medical attention and special treatment needed

Note to physicians

Because of the danger of aspiration, emesis or gastric lavage should not be employed unless the risk is justified by the presence of additional toxic substances.

5. Fire-fighting measures

Suitable Extinguishing Media Large Fire Dry chemical. Carbon dioxide (CO2). Water spray. Alcohol resistant foam. CAUTION: Use of water spray when fighting fire may be inefficient.

Unsuitable extinguishing media

Do not scatter spilled material with high pressure water streams.

Specific hazards arising from the chemical

Risk of ignition. Keep product and empty container away from heat and sources of ignition. In the event of fire, cool tanks with water spray. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge

Yes.

Special protective equipment and precautions for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions Evacuate personnel to safe areas. Use personal protective equipment as required. See

section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the

product must be grounded. Do not touch or walk through spilled material.

Other information Ventilate the area. Refer to protective measures listed in Sections 7 and 8.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor

suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other

non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Take precautionary measures against static discharges. Dam up. Soak up with inert

absorbent material. Pick up and transfer to properly labeled containers.

7. Handling and storage

Precautions for safe handling

hot surfaces, sparks, open flames and other ignition sources. No smoking. Use grounding and bonding connection when transferring this material to prevent static discharge, fire or explosion. Use with local exhaust ventilation. Use spark-proof tools and explosion-proof equipment. Keep in an area equipped with sprinklers. Use according to package label instructions. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse. In case of insufficient ventilation, wear

suitable respiratory equipment.

Conditions for safe storage, including any incompatibilities

Storage Conditions Please refer to the manufacturer's certificate for specific storage and transport temperature

conditions. Store only in the original receptacle unless other advice is given on the CoA. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat,

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sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep in properly labeled containers. Do not store near combustible materials. Keep in an area equipped with sprinklers. Store in accordance with the particular national regulations. Store in accordance with local regulations. Store locked up. Keep out of the reach of children. Store away from other materials.

8. Exposure controls/personal protection

Control parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
2,2,4-Trimethylpentane	TWA: 300 ppm	-	-
540-84-1			

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Appropriate engineering controls

Engineering controls Showers

Eyewash stations Ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Avoid contact with eyes. Wear safety glasses with side shields (or goggles). Tight sealing

safety goggles.

Hand protection The protective gloves to be used must comply with the specifications of EC Directive

89/686/EEC and the related standard EN374. Wear protective nitrile rubber gloves. Wear

suitable gloves. Impervious gloves.

Skin and body protection Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron.

Antistatic boots.

Respiratory protectionNo protective equipment is needed under normal use conditions. If exposure limits are

exceeded or irritation is experienced, ventilation and evacuation may be required.

Environmental exposure controls Do not allow into any sewer, on the ground or into any body of water.

General hygiene considerations Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this

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product. Wash hands before breaks and after work. Wear suitable gloves and eye/face protection. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state Liquid
Appearance Liquid
Color colorless

Odor Petroleum distillates
Odor threshold No information available

<u>Property</u> <u>Values</u> <u>Remarks • Method</u>

No data available None known рH Melting point / freezing point -107 °C / -160.6 °F None known Initial boiling point and boiling range99 °C / 210.2 °F None known -9 °C / 15.8 °F Flash point None known **Evaporation rate** No data available None known **Flammability** No data available None known Flammability Limit in Air None known

Upper flammability or explosive 6 Vol% - 290 g/m³

limits

Lower flammability or explosive 0.7 Vol% - 34 g/m³

limits

@ 20°C Vapor pressure 53 hPa Relative vapor density 3.94 None known Relative density 0.69 None known No data available Water solubility None known Solubility(ies) No data available None known Partition coefficient None known Autoignition temperature 410 °C / 770 °F None known

Decomposition temperature

Kinematic viscosity

No data available

None known

O.501 mPa s

@ 20°C

Other information

Explosive properties
Oxidizing properties
No information available
VOC content
No information available
Liquid Density
No information available
Bulk density
No information available

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Isooctane

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10. Stability and reactivity

Reactivity No information available.

Chemical stability Stable under normal conditions.

Possibility of hazardous reactions None under normal processing.

Conditions to avoid Heat, flames and sparks.

Strong acids. Strong bases. Strong oxidizing agents. Incompatible materials

Hazardous decomposition products None known based on information supplied.

11. Toxicological information

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available. Aspiration into lungs can

produce severe lung damage. May cause pulmonary edema. Pulmonary edema can be

fatal. May cause irritation of respiratory tract. May cause drowsiness or dizziness.

Specific test data for the substance or mixture is not available. May cause irritation. Eye contact

Repeated exposure may cause skin dryness or cracking. Specific test data for the Skin contact

substance or mixture is not available. Causes skin irritation. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Potential for aspiration if

swallowed. May cause lung damage if swallowed. Aspiration may cause pulmonary edema and pneumonitis. May be fatal if swallowed and enters airways. Ingestion may cause

gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Difficulty in breathing. Coughing and/ or wheezing. Dizziness. Redness. May cause redness

and tearing of the eyes. Inhalation of high vapor concentrations may cause symptoms like

headache, dizziness, tiredness, nausea and vomiting.

Acute toxicity

Numerical measures of toxicity

The following values are calculated based on chapter 3.1 of the GHS document

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 ATEmix (oral)
 99,999.00 mg/kg

 ATEmix (dermal)
 99,999.00 mg/kg

 ATEmix (inhalation-gas)
 99,999.00 ppm

 ATEmix (inhalation-dust/mist)
 99,999.00 mg/l

 ATEmix (inhalation-vapor)
 99,999.00 mg/l

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2,2,4-Trimethylpentane 540-84-1	> 5000 mg/kg (Rat)	> 2000 mg/kg (Rabbit)	> 14.38 mg/L (Rat)4 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Classification based on data available for ingredients. Causes skin irritation.

Serious eye damage/eye irritation No information available.

Respiratory or skin sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity No information available.

Reproductive toxicity No information available.

STOT - single exposure May cause drowsiness or dizziness.

STOT - repeated exposureNo information available.

Aspiration hazard May be fatal if swallowed and enters airways.

Other adverse effects

No information available.

Interactive effects

No information available.

12. Ecological information

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Isooctane

Ecotoxicity Very toxic to aquatic life with long lasting effects.

Chemical name	Algae/aquatic plants	Fish	Toxicity to	Crustacea
			microorganisms	
2,2,4-Trimethylpentane	-	LC50:=18.4mg/L (96h,	-	EC50: =0.02856mg/L
540-84-1		Oncorhynchus mykiss)		(48h, Daphnia magna)

Persistence and degradability No information available.

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
2,2,4-Trimethylpentane	4.08
540-84-1	

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

products

Waste from residues/unused Should not be released into the environment. Dispose of in accordance with local

regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Empty containers pose a potential fire and explosion hazard. Do not cut, puncture or weld

containers.

California Hazardous Waste Status This product contains one or more substances that are listed with the State of California as

a hazardous waste.

14. Transport information

DOT

UN number or ID number UN1262

Extended proper shipping name Octanes mixture

Transport hazard class(es) 3
Packing group

Reportable Quantity (RQ) (2,2,4-Trimethylpentane: RQ (kg)= 454.00) 2,2,4-Trimethylpentane: RQ (lb)= 1000.00

Reportable quantity (kg) 2,2,4-Trimethylpentane: RQ (kg)= 454.00

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(calculated)

Reportable quantity (lbs)

2,2,4-Trimethylpentane: RQ (lb)= 1000.00

(calculated)

Special Provisions IB2, T4, TP2

DOT Marine Pollutant

Marine pollutant 2,2,4-Trimethylpentane, PCB No. 143

Description UN1262, Octanes mixture, 3, II

Emergency Response Guide 128

Number

TDG

UN number or ID number UN1262

UN proper shipping name Octanes mixture

Transport hazard class(es) 3
Packing group II
Marine pollutant P

Description UN1262, Octanes mixture, 3, II

MEX

UN number or ID number UN1262

UN proper shipping name Octanes mixture

Transport hazard class(es) 3
Packing group ||

Description UN1262, Octanes mixture, 3, II

<u>IATA</u>

UN number or ID number UN1262

UN proper shipping name Octanes mixture

Transport hazard class(es) 3
Packing group ||

Description UN1262, Octanes mixture, 3, II

Octanes mixture

ERG Code 3H

<u>IMDG</u> Not regulated

UN number or ID number UN1262

Transport hazard class(es) 3
Packing group ||

EmS-No. F-E, S-E

Marine pollutant P

Marine Pollutant 2,2,4-Trimethylpentane

Description UN1262, Octanes mixture (2,2,4-Trimethylpentane), 3, II, (-9°C c.c.), Marine pollutant

15. Regulatory information

UN proper shipping name

International Inventories

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TSCA

LGC, to the best of its ability, has confirmed that the chemical substances in this product are listed as "Active" in the EPA (Environmental Protection Agency) "TSCA Inventory Notification (Active-Inactive) Requirements Rule" ("the Final Rule") of Feb 2019, as amended Feb 2021."

Chemical name	CAS No.	Inventory Listing Status	Commercial Activity Designation
2,2,4-Trimethylpentane	540-84-1	Present	Active

TSCA Section 6 restricted substances

This product contains a TSCA Section 6 restricted substance(s). Please see listed references to understand requirements and obligations under TSCA. Not all products containing restricted substances will necessarily be restricted.

Chemical name	CAS No.	References
PCB No. 143	68194-15-0	See 40 CFR Part 761

DSL/NDSL
EINECS/ELINCS
Contact supplier for inventory compliance status.
PICCS
Contact supplier for inventory compliance status.
Contact supplier for inventory compliance status.
Contact supplier for inventory compliance status.

Leaend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

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SARA 311/312 Hazard Categories

Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	Reportable Quantity (RQ)
2,2,4-Trimethylpentane 540-84-1	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals:.

Chemical name	California Proposition 65	
PCB No. 143 - 68194-15-0	Carcinogen	
	Developmental	

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
2,2,4-Trimethylpentane 540-84-1	X	X	X
PCB No. 143 68194-15-0	Х	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

<u>NFPA</u>	Health hazards 2	Flammability 3	Instability 0	Special hazards -
<u>HMIS</u>	Health hazards 2	Flammability 3	Physical hazards 0	Personal protection X

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

Legend Section 8: Exposure controls/personal protection

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)

Ceiling Maximum limit value Sk* Skin designation

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR) U.S. Environmental Protection Agency ChemView Database

European Food Safety Authority (EFSA) EPA (Environmental Protection Agency)

Acute Exposure Guideline Level(s) (AEGL(s))

U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act

U.S. Environmental Protection Agency High Production Volume Chemicals

Food Research Journal

Hazardous Substance Database

International Uniform Chemical Information Database (IUCLID)

Japan GHS Classification

Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)

NIOSH (National Institute for Occupational Safety and Health)

National Library of Medicine's ChemID Plus (NLM CIP)

National Library of Medicine's PubMed database (NLM PUBMED)

National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

Revision date 18-Apr-2024

Revision NoteNo information available.

Disclaimer

The information in this Safety Data Sheet meets the requirements of the United States OCCUPATIONAL SAFETY AND HEALTH ACT and regulations promulgated thereunder (29 CFR 1910.1200 et. seq.) This document is intended only as a guide to the appropriate precautionary handling of the material by a person trained in, or supervised by a person trained in, chemical handling. The user is responsible for determining the application. Depending on usage, protective clothing including eye and face guards and respirators must be used to avoid contact with material or breathing chemical vapors/fumes. Exposure to this product may have serious adverse health effects. This chemical may interact with other substances. Since the potential uses are so varied, we cannot warn of all of the potential dangers of use or interaction with other chemicals or materials. We warrant that the chemical meets the specifications set forth on the label. We (LGC/VHG/ARMI) disclaim any other warranties, expressed or implied with regard to the product supplied hereunder, its merchantability or its fitness for a particular purpose. The user should recognize that this product can cause severe injury and even death, especially if improperly handled or the known dangers of use are not heeded. Read all precautionary information.

End of Safety Data Sheet

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