



SDS-1071

SAFETY DATA SHEET

Section 1. Product and Company Identification

Product Name: *rac-beta*-Tocopherol in hexane 50 mg/ml
Product Number(s): 1071
Synonym(s): 5,8-Dimethyltolcol
CAS Number: 148-03-8
Source: Synthetic
Product Use: This product is to be used for research only. It is not intended for drug or diagnostic use, human consumption or to be used in food or food additives.

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Section 2. Hazards Identification

Emergency Overview:
Target Organs: Cardiovascular system, Central nervous system, Peripheral nervous system, Blood, Liver, Kidney, Nerves, Heart, Eyes, Skin
GHS Classification: Flammable liquids, Category 2
Skin Irritation, Category 2
Aspiration hazard, Category 1
Serious eye damage/eye irritation, Category 2A
Reproductive toxicity, Category 2
Specific target organ toxicity - single exposure, Category 3
Specific target organ toxicity - repeated exposure, Category 1
Acute toxicity to the aquatic environment, Category 2

GHS Label Elements:
Pictogram(s):



Signal Word: **Danger**

Health Code
H225
H315
H304
H320
H361
Hazard statement(s):
Highly flammable liquid and vapor.
Causes skin irritation.
May be fatal if swallowed and enters airways.
Causes eye irritation.
Suspected of damaging fertility or unborn child.

H335	May cause respiratory irritation; or
H336	May cause drowsiness or dizziness.
H372	Causes damage to central nervous system, peripheral nervous system through prolonged or repeated exposure.
H401	Toxic to aquatic life

Prevention Code

Prevention Code	Prevention Statement(s):
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.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.

Response Code

Response Code	Response Statement(s):
P305, P351, P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P331	Do NOT induce vomiting.
P308, P313	IF exposed or concerned: Get medical advice/attention.
P302, P352	IF ON SKIN: Wash with plenty of soap and water.
P321	Specific treatment (see supplemental first aid instructions).
P332, P313	If skin irritation occurs: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P314	Get medical advice/attention if you feel unwell.
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.
P370, P378	In case of fire: Use dry chemical, appropriate foam, or carbon dioxide; water spray for extinction.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P304, P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P391	Collect spillage.

Storage Code

Storage Code	Storage Statement(s):
P405	Store locked up.
P403, P235	Store in a well-ventilated place. Keep cool.
P403, P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal Code

Disposal Code	Disposal Statement(s):
P501	Disposal of contents/container in accordance to local/regional/national/international regulation.

Section 3. Composition/Information on Ingredients

Product Name	CAS Number	Percent	Hazardous
Hexane	110-54-3	92.5	Yes
<i>rac-beta</i> -Tocopherol	148-03-8	7.5	No

Section 4. First Aid Measures

Inhalation:

Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Consult a physician.

Skin:

In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately. Thoroughly wash or discard clothing and shoes before reuse.

Eyes:

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and tested by medical personnel.

Ingestion:

If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as collar, tie, belt or waistband. Get medical attention immediately.

Section 5. Fire Fighting Measures

Suitable extinguishing media:

Use dry chemical, appropriate foam, or carbon dioxide; water spray.

Specific hazards arising from the chemical:

Extremely flammable in presence of open flames, sparks, and static discharge.

Special protective actions for fire fighters:

Evacuate area and fight fire from a safe distance. Do not stay in dangerous zone without suitable chemical protection clothing and self-contained breathing apparatus.

Special protective equipment for fire fighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, (MSHA/NIOSH approved or equivalent) and full protective gear.

Section 6. Accidental Release Measures

Personal precautions:

No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate personal protective equipment.

Environmental precautions:

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewer. Inform the relevant authorities if the product has caused environmental pollution (sewer, waterways, soil or air).

Methods and Materials for containment and cleaning up:

Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Prevent entry into sewers, water sources, basements or confined spaces. Contain and collect spillage with non-combustible, absorbent material and place in container for disposal according to local regulations. Do not touch spilled material. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the SDS and with local authorities.

Section 7. Handling and Storage

Precautions for safe handling:

Avoid contact with eyes, skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Store and use away from heat, sparks, open flame or any other ignition source. Keep sealed when not in use. Wear appropriate personal protective equipment.

Conditions for safe storage, including incompatibilities:

Recommended storage temperature: -20°C. Store in a tightly closed container. Separate from oxidizing materials.

Section 8. Exposure Controls/Personal Protection

Product Name	CAS Number	Type	Exposure Limits	Source
Hexane	110-54-3	TWA (8Hr)	500 ppm	USA (ACGIH)
		TWA (8Hr)	500 ppm	USA (OSHA)
		TWA	20 ppm	Australia
		TWA	20 ppm	Belgium
		VME	50 ppm	France
		MAK	180 mg/m ³	Germany
		TWA	180 mg/m ³	Hungary
		OEL	40 ppm	Japan
		TWA	50 ppm	Korea
		MAC-TGG	90 mg/m ³	Netherlands
		TWA	20 ppm	New Zealand
		TWA	25 ppm	Sweden
		MAK	50 ppm	Switzerland
		TWA	20 ppm	UK

Engineering Controls:

Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

Personal Protective Equipment:

Respiratory protection:

Use only in a well ventilated area. Wear an appropriate NIOSH/MSHA approved air-purifying respirator. If warranted, wear a positive pressure air-supplied respirator in situations where there may be potential for airborne exposure.

Hand protection:

Chemical-resistant, impervious gloves should be worn at all times when handling chemical products. Recommended: Nitrile rubber

Eye protection:

Safety eyewear should be worn at all times to avoid exposure to liquid splashes, mists or dusts. Recommended: Splash goggles

Skin protection:

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. Recommended: Lab coat

Section 9. Physical and Chemical Properties

Appearance:	Liquid
Odor:	Characteristic
Odor threshold:	130 ppm
PH:	No data available
Melting/Freezing point:	-95°C (-139°F)
Initial boiling point and boiling range:	68.9°C (156°F) @ 760 mmHg
Flash point:	-22°C (-7°F)
Evaporation rate (Butyl acetate = 1):	6.82
Flammability (solid, gas):	No data available
Upper/Lower flammability or explosive limit:	LEL 1.1% UEL 7.5%
Vapor pressure:	165.3 hPa (124.0 mmHg) at 20°C (68.0°F)

Vapor density (Air=1):	3
Relative density:	0.659
Solubility (ies):	0.002%
Partition coefficient (n-octanol/water):	>4100 @ 25°C
Auto-ignition temperature:	224.85°C (436.7°F)
Decomposition temperature:	No data available
Viscosity:	0.337 cp @ 15°C
Molecular formula for <i>rac-beta</i>-Tocopherol:	C ₂₈ H ₄₈ O ₂
Molecular weight for <i>rac-beta</i>-Tocopherol:	417
Molecular formula for hexane (solvent):	C ₆ H ₁₄
Molecular weight for hexane (solvent):	86.17

Section 10. Stability and Reactivity

Reactivity:

Stable under recommended storage conditions.

Chemical stability:

Stable under recommended storage conditions.

Possibility of hazardous reaction:

Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid:

Avoid excessive heat for prolonged periods of time. Avoid all possible sources of ignition (spark or flame).

Incompatible materials:

Avoid strong oxidizing substances.

Hazardous decomposition products:

Carbon oxides (CO, CO₂), water

Section 11. Toxicological Information

Acute toxicity:

Hexane

LC50: Inhalation - Rat - 627,000 mg/m³ @ 3 minute exposure time

LD50: Oral - Rat - 25 g/kg

Skin corrosion / irritation:

Irritations. Drying-out effect resulting in rough and chapped skin. Danger of skin absorption.

Serious eye damage / irritation:

Mild irritation

Eyes - rabbit - 10 mg mild irritation to eyes

Respiratory or skin sensitization:

No sensitization information affects known.

Germ cell mutagenicity:

Hexane is not expected to cause mutagenic affects in humans. Animal mutations to rats when exposed to high doses.

Carcinogenicity:

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

Reproductive toxicity:

Hexane is not expected to cause adverse effects in humans. Clinical studies on test animals exposed to relative high doses indicate adverse reproductive affects.

Specific target organ toxicity - single exposure:

Category 3 single exposure may cause damage to cardiovascular system, central nervous system, peripheral nervous system, blood, liver, kidney, nerves, heart, eyes or skin.

Specific target organ toxicity - repeated exposure:

Category 1 repeated exposure may cause damage to cardiovascular system, central nervous system, peripheral nervous system, blood, liver, kidney, nerves, heart, eyes or skin through prolonged exposure.

Aspiration hazard:

Small amounts of liquid aspirated into the lungs during ingestion or from vomiting may cause chemical pneumonitis or pulmonary edema.

Section 12. Ecological Information

Toxicity:	LC50	Pimephales promelas (fathead minnow)	2.5 mg/l	96 h
Fish	LC50	Lepomis macrochirus (Bluegill sunfish)	4.12 mg/l	96 h
	LC50	Oncorhynchus mykiss (rainbow trout)	4.14 mg/l	96 h
	LC50	Daphnia magna (Water flea)	3.87 mg/l	96 h

Persistence and degradability:

The substance is readily biodegradable. Expected to degrade rapidly in air.

Bioaccumulative potential:

No measured values available for bioaccumulation.

Bioaccumulation:

No data available

Mobility in soil:

Not expected to partition in sediment and wastewater solids. Hexane is not expected to absorb significantly to organic matter in soil, sediment and wastewater solids.

Other adverse effects:

This material is not expected to be toxic to aquatic life. Should not be released into the environment.

Section 13. Disposal Consideration**Disposal methods:**

Observe all federal, state, and local environmental regulations.

Contact a licensed professional waste disposal service to dispose of this material.

Section 14. Transportation Information

Transportation quantity: This item shipped as an excepted quantity.

DOT (US)

UN Number:	1208
UN Proper shipping name:	Hexanes
Transportation hazard class(es):	3
Packaging group (if applicable):	II
Reportable Quantity (RQ):	5000 lbs. or 2270 Kg
Environmental hazards:	No
Marine pollutant:	No

Land Transport ADR/RID

UN Number:	1208
UN Proper shipping name:	Hexanes
Transportation hazard class(es):	3
Packaging group (if applicable):	II
Environmental hazards:	No
Marine pollutant:	No

Maritime Transport IMDG

UN Number:	1208
UN Proper shipping name:	Hexanes
Transportation hazard class(es):	3
Packaging group (if applicable):	II
Environmental hazards:	No
Marine pollutant:	No

Air Transport ICAO/IATA

UN Number:	1208
UN Proper shipping name:	Hexanes
Transportation hazard class(es):	3
Packaging group (if applicable):	II
Environmental hazards:	No
Marine pollutant:	No

Section 15. Regulatory Information

DSL/NDL status:	All hexanes and <i>rac-beta</i> -Tocopherol are on the DSL inventory.
TSCA	All hexanes and <i>rac-beta</i> -Tocopherol are on the TSCA inventory.
Product Name	CAS Number
<i>rac-beta</i> -Tocopherol	148-03-8
SARA 302 Components:	
Component	CAS Number
Hexane	110-54-3
SARA 313 Components:	
Component	CAS Number
Hexane	110-54-3
SARA 311/312 Hazards:	Fire hazard, immediate (acute) health hazard, delayed (chronic) health hazard.

Delaware Air Quality Management List:	
Component	CAS Number
Hexane	110-54-3

Massachusetts Right To Know Components:	
Component	CAS Number
Hexane	110-54-3

Minnesota Right To Know Components:	
Component	CAS Number
Hexane	110-54-3

New Jersey Right To Know Components:	
Component	CAS Number
Hexane	110-54-3

Pennsylvania Right To Know Components:	
Component	CAS Number
Hexane	110-54-3

California Prop. 65 Components:
This product does not contain any chemicals known to the State of California to cause cancer.

Section 16. Other Information

Manufacturer Supplementary Notes:

The statements contained herein are based upon technical data that MATREYA LLC believes to be reliable, are offered for information purposes only and as a guide to the appropriate precautionary and emergency handling of the material by a properly trained person having the necessary technical skills. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use, storage and disposal of these materials and the safety and health of employees and customers and the protection of the environment. MATREYA LLC MAKES NO REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, INCLUDING MERCHANTABILITY OR FITNESS FOR PARTICULAR USE, WITH RESPECT TO THE INFORMATION HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. MATREYA LLC ASSUMES NO LIABILITY FOR ANY USE OF THESE CHEMICALS BY THE END USER.

Revision Summary:	05/24/2012	Version 2
	10/08/2012	Version 3
	03/04/2014	Version 4: Revised product use statement.
	03/30/2015	Version 5: Changed company address.
	7/28/2017	Version 6: Removed Chemtrec International number.
	7/16/2018	Version 7: Reviewed, no changes.

Reference:

Centers for Disease Control and Prevention. "Hexane RTECS." National Institute for Occupational Safety and Health. 2011. July 12, 2011. <<http://www.cdc.gov/niosh-rtecs/MN8D8678.html>>.
Kegley, S.E., Hill, B.R., Orme S., Choi A.H., "PAN Pesticide Database." Pesticide Action Network, North America (San Francisco, CA, 2010), <http://www.pesticideinfo.org>.