



Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation Isooctane/Toluene 70:30

Product Number R4206500

Other Identifying Product Numbers R4206500-500C1

1.2. Recommended Use and Restrictions on Use

General Laboratory Reagent

1.3. Details of the Supplier of the Safety Data Sheet

Company Ricca Chemical Company

Address 412 West Fork Drive

Arlington, TX 76012 USA

Telephone 888-467-4222

1.4. Emergency Telephone Number (24 hours)

CHEMTREC (USA) 800-424-9300

CHEMTREC (International) 1+ 703-527-3887

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SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

Hazard Class	Category	Hazard Statements	Precautionary Statements
Flammable Liquids	Category 2	H225	P210,P233,P240,P241,P242,P243,P280,P303+P361+P353,P370+P378,P403+P235,P501
Skin Corrosion / Irritation	Category 2	H315	P264,P280,P302+P352,P321,P332+P313,P362+P364
Reproductive Toxicity	Category 2	H361	P201,P202,P280,P308+P313,P405, P501
Specific Target Organ Toxicity - Single Exposure - Transient Effects	Category 3 - Narcotic Effects	H336	P261,P271,P304+P340,P312,P403+P233,P405,P501
Specific Target Organ Toxicity - Repeated Exposure	Category 1	H372	P260,P264,P270,P314,P501
Aspiration Hazard	Category 1	H304	P301+P310,P331,P405,P501
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 1	H400	P273,P391,P501
Hazardous to the Aquatic Environment, Long-term (Chronic)	Chronic 1	H410	P273,P391,P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

NOTE: Hazard statements may be combined on labels to improve clarity and readability.

Hazard Number	Hazard Statement
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
H372	Causes damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

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Precautionary Statements:

NOTE: Precautionary statements may be combined or consolidated on labels to improve clarity and readability.

Prevention

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharge.
P260	Do not breathe fumes or mist.
P264	Wash hands, arms, and face thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	If exposed or concerned: Get medical advice or attention.
P312	Call a poison center or doctor if you feel unwell.
P331	Do NOT induce vomiting.
P332+P313	If skin irritation occurs: Get medical advice or attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P370+P378	In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish.
P391	Collect spillage.

Storage

Precautionary Number	Precautionary Statement
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
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P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.
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2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

This product does not contain any ingredients of unknown acute toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
2,2,4-trimethylpentane	Isooctane	540-84-1	65.09
methylbenzene	Toluene; phenylmethane	108-88-3	34.91

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: May cause irritation, redness, pain, and tearing.

Ingestion: IF SWALLOWED: Immediately call a POISON CENTER or doctor. Aspiration hazard. Do not induce vomiting, vomiting may occur spontaneously. If vomiting occurs, keep head below hips to prevent aspiration into lungs. Call a physician.

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

Skin Contact: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. May cause irritation, allergic reaction, redness and pain. May be absorbed through skin on prolonged exposure.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Suspected of damaging fertility or the unborn child EYE CONTACT: May cause irritation, redness, pain, and tearing. SKIN CONTACT: May cause irritation, allergic reaction and rash. CHRONIC EFFECTS / CARCINOGENICITY: Prolonged or repeated exposure may cause dermatitis.

4.3. Immediate Medical Attention or Special Treatment Needed

Irrigate immediately with large quantity of water for at least 15 minutes. Get medical attention immediately. Remove to fresh air. Give artificial respiration if necessary. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Call a physician if irritation develops. Do not induce vomiting. Give large quantity of water. Call a physician immediately.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

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In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish. Foam, dry chemical, carbon dioxide Water may be ineffective because it may not cool the material below its flash point.

5.2. Specific Hazards Arising from the Substance or Mixture in a Fire

Highly flammable liquid and vapor Vapors can flow along surfaces to distant ignition source and flashback. Use water spray to blanket fire, cool fire exposed containers, and to flush non-ignited spills or vapors away from fire. Explosion hazard when exposed to heat, flame or oxidizers.

5.3. Special Protective Equipment and Precautions for Firefighters

Wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

SECTION 6: Accidental Release Measures

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

Ground and bond container and receiving equipment. Use explosion-proof equipment. Use non-sparking tools. Take action to prevent static discharge. Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Do not flush to sewer. Absorb with suitable inert material (vermiculite, dry sand, earth) and place in a chemical waste container for proper disposal in an approved waste disposal facility. Ventilate area of spill. Have extinguishing agent available in case of fire. Eliminate all sources of ignition. Use non-sparking tools and equipment. Dispose of in accordance with local regulations.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling and Storage Conditions

Store in a well-ventilated place. Keep container tightly closed. Keep cool. Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Store in secure, flammable storage area away from all sources of ignition. Empty containers may be hazardous since they retain product residues.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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U.S. OSHA - Permissible Exposure Limits (PEL) - Time Weighted Averages (TWA)

Chemical Name	CAS Number	Exposure Limit
Toluene	108-88-3	200 ppm TWA

U.S. OSHA - Permissible Exposure Limits (PEL) - Ceiling Limits

Chemical Name	CAS Number	Exposure Limit
Toluene	108-88-3	300 ppm Ceiling

U.S. OSHA - Permissible Exposure Limits (PEL) - Short Term Exposure Limits (STEL)

No limits found.

U.S. OSHA - Specifically Regulated Chemicals

No limits found.

ACGIH - Threshold Limit Values - Ceilings (TLV-C)

No limits found.

ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)

No limits found.

ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

Chemical Name	CAS Number	Exposure Limit
Toluene	108-88-3	20 ppm TWA
Isooctane	540-84-1	"300 ppm TWA" As Octane, all isomers [RR-04089-1]

8.2. Engineering Controls

Use only outdoors or in a well-ventilated area. A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

8.3. Individual Protective Measures and Personal Protective Equipment

Respiratory Protection: Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn.

Skin Protection: Chemical resistant gloves.

Eye Protection: Safety glasses or goggles.

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SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Physical State:	Liquid
Color:	clear, colorless
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	approximately -100°C
Boiling Point/Range:	approximately 100°C
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	-9 °C (calculated)
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	Data not available.
Kinematic Viscosity:	Data not available.
Solubility:	Data not available.
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	0.74
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

NOTE: Flash point was calculated according to the method of Gmehling and Rasmussen (Ind. Eng. Chem. Fundament, 21, 186, (1982)), as allowed by GHS Rev 7, section 2.6.4.2.3.

SECTION 10: Stability and Reactivity

10.1. Reactivity and Chemical Stability

Stable under normal conditions of use and storage.

10.2. Possibility of Hazardous Reactions

Data not available.

10.3. Conditions to Avoid and Incompatible Materials

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Heat, sparks, open flame, strong oxidizers, strong acids, strong alkalis, reducing agents.

10.4. Hazardous Decomposition Products

Will not occur.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Toluene	108-88-3	Oral LD50 Rat 4328 mg/kg (Source: Canada_HSA)
Isooctane	540-84-1	Oral LD50 Rat >5000 mg/kg (no deaths occurred, Source: ECHA)

Acute Toxicity - Dermal Exposure:

Not acutely toxic.

Chemical Name	CAS Number	Toxicity
Toluene	108-88-3	Dermal LD50 Rabbit 12200 mg/kg (Source: Canada_HSA)
Isooctane	540-84-1	Dermal LD50 Rabbit >2000 mg/kg (no deaths occurred, Source: ECHA_API)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, vapor): 54.4257 mg/L, 4 h(calculated)

Chemical Name	CAS Number	Toxicity
Toluene	108-88-3	Inhalation LC50 Rat 19.0 mg/L 4 h (Source: Canada_HSA)
Isooctane	540-84-1	Inhalation LC50 Rat >33.52 mg/L 4 h (no deaths occurred, vapor, Source: ECHA_API)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Toluene	108-88-3	Group 3 (Not Classified) - Monograph 71 [1999]; Monograph 47 [1989]

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
Toluene	108-88-3	Male Rat - No Evidence; Female Rat - No Evidence; Male Mice - No Evidence; Female Mice - No Evidence (TR-371)

U.S. OSHA specifically regulated carcinogens

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Chemical Name	CAS Number	Classification
No data found.		

11.3 Additional Toxicology Information:

May be fatal if swallowed and enters airways. Causes skin irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Toluene	108-88-3	Freshwater Algae	Acute	EC50 96 h <i>Pseudokirchneriella subcapitata</i> >433 mg/L (IUCLID); EC50 72 h <i>Pseudokirchneriella subcapitata</i> 12.5 mg/L [static] (EPA)
Toluene	108-88-3	Freshwater Fish	Acute	LC50 96 h <i>Pimephales promelas</i> 15.22 - 19.05 mg/L [flow-through] (1 day old, EPA); LC50 96 h <i>Pimephales promelas</i> 12.6 mg/L [static] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 5.89 - 7.81 mg/L [flow-through] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 14.1 - 17.16 mg/L [static] (EPA); LC50 96 h <i>Oncorhynchus mykiss</i> 5.8 mg/L [semi-static] (EPA); LC50 96 h <i>Lepomis macrochirus</i> 11.0 - 15.0 mg/L [static] (EPA); LC50 96 h <i>Oryzias latipes</i> 54 mg/L [static] (EPA); LC50 96 h <i>Poecilia reticulata</i> 28.2 mg/L [semi-static] (EPA); LC50 96 h <i>Poecilia reticulata</i> 50.87 - 70.34 mg/L [static] (EPA)
Toluene	108-88-3	Water Flea	Acute	EC50 48 h <i>Daphnia magna</i> 5.46 - 9.83 mg/L [Static] (EPA); EC50 48 h <i>Daphnia magna</i> 11.5 mg/L (IUCLID)
Isooctane	540-84-1	Water Flea	Acute	"EC50 48 h <i>Daphnia magna</i> 0.02856 mg/L (IUCLID)" As Alkanes, C4-10-branched and linear [90622-50-7]

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

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12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

SECTION 14: Transportation Information

14.1 Transportation by Land - Department of Transportation (DOT, United States of America)

Sizes: 500 mL

UN Number: UN1992

Proper Shipping Name: Flammable liquid, toxic, n.o.s. (Isooctane, Toluene)

Hazard Class: 3 (6.1)

Packing Group: II

Hazard Label(s):



14.2 Transportation by Air - International Air Transport Association (IATA)

Sizes: 500 mL

UN Number: UN1992

Proper Shipping Name: Flammable liquid, toxic, n.o.s. (Isooctane, Toluene)

Hazard Class: 3 (6.1)

Packing Group: II

Hazard Label(s):



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14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 500 mL

UN Number: UN1992

Proper Shipping Name: FLAMMABLE LIQUID, TOXIC, N.O.S. (isooctane, toluene)

Hazard Class: 3 (6.1)

Packing Group: II

Hazard Label(s):



SECTION 15: Regulatory Information

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15.01. Occupational Safety and Health Administration (OSHA) Hazards

Chemical Name	CAS Number	Regulatory Information
No data found.		

15.02. Superfund Amendments and Reauthorization Act (SARA) 302 Extremely Hazardous Substances

Chemical Name	CAS Number	RQ
No data found.		

15.03. Superfund Amendments and Reauthorization Act (SARA) 311/312 Hazardous Chemicals

Chemical Name	CAS Number	Regulatory Information
Toluene	108-88-3	1000 lb final RQ; 454 kg final RQ
Isooctane	540-84-1	1000 lb final RQ; 454 kg final RQ

15.04. Superfund Amendments and Reauthorization Act (SARA) 313 Toxics Release Inventory (TRI)

Chemical Name	CAS Number	List	Regulatory Information
Toluene	108-88-3	Emission Reporting	1.0 % de minimis concentration

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Toluene	108-88-3	Present
Isooctane	540-84-1	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Toluene	108-88-3	Environmental hazard
Isooctane	540-84-1	Present

15.07. New Jersey Worker and Community Right-to-Know Components

Chemical Name	CAS Number	Regulatory Information
Toluene	108-88-3	sn 1866
Isooctane	540-84-1	sn 1061

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15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Toluene	108-88-3	developmental toxicity, 1/1/1991

15.09. Canada Domestic Substances List / Non-Domestic Substances List (DSL/NDSL)

Chemical Name	CAS Number	List	Status
Toluene	108-88-3	DSL	Present
Isooctane	540-84-1	DSL	Present

15.10. United States of America Toxic Substances Control Act (TSCA) List

Chemical Name	CAS Number	Status
Toluene	108-88-3	Present (ACTIVE)
Isooctane	540-84-1	Present (ACTIVE)

15.11. European Inventory of Existing Commercial Chemical Substances (EINECS), European List of Notified Chemical Substances (ELINCS), and No Longer Polymers (NLP)

Chemical Name	CAS Number	List	Number
Toluene	108-88-3	EINECS	203-625-9
Isooctane	540-84-1	EINECS	208-759-1

15.12. China - Inventory of Existing chemical Substances (IECSC)

Chemical Name	CAS Number	Status
Toluene	108-88-3	Present [16691]
Isooctane	540-84-1	Present [29211]

15.13. Korea - Existing Chemicals Inventory (KECI/KECL)

Chemical Name	CAS Number	List	Status
Toluene	108-88-3	Annex 1	Present [KE-33936]
Isooctane	540-84-1	Annex 1	Present [KE-34634]



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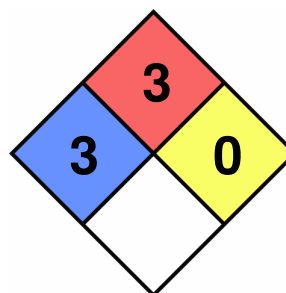
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Toluene	108-88-3	(3)-2, (3)-60
Isooctane	540-84-1	(2)-8

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 3
Flammability: 3
Reactivity: 0
Special Hazard:



16.2 Document Revision

Last Revision Date:
2026-05-24

DISCLAIMER

When handled properly by qualified personnel, the product described herein does not present a significant health or safety hazard. Alteration of its characteristics by concentration, evaporation, addition of other substances, or other means may present hazards not specifically addressed herein and which must be evaluated by the user. The information furnished herein is believed to be accurate and represents the best data currently available to us. No warranty, expressed or implied, is made and RICCA CHEMICAL COMPANY assumes no legal responsibility or liability whatsoever resulting from its use.