RICCA CHEMICAL COMPANY®

Safety Data Sheet

Classified According to OSHA Hazard Communication Standard (HCS 2024)

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation HydroSpec® Composit T5
For General Use One Component Volumetric Titrations

Product Number RK200000

Other Identifying Product Numbers RK200000-1C, RK200000-500C

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
Acute Toxicity - Oral	Category 4	H302	P264,P270,P301+P312,P330,P501
Acute Toxicity - Dermal	Category 4	H312	P280,P302+P352,P312,P321,P362+P364, P501
Corrosive to the Respiratory Tract	Corrosive		
Flammable Liquids	Category 4	H227	P210,P280,P370+P378,P403,P501
Skin Corrosion / Irritation	Category 1	H314	P260,P264,P280,P301+P330+P331, P303+P361+P353,P363,P304+P340, P310,P321,P305+P351+P338,P405, P501
Serious Eye Damage / Eye Irritation	Category 1	H318	P280,P305+P351+P338,P310
Germ Cell Mutagenicity	Category 2	H341	P201,P202,P280,P308+P313,P405, P501
Reproductive Toxicity	Category 1B	H360	P201,P202,P280,P308+P313,P405, P501
Specific Target Organ Toxicity - Repeated Exposure	Category 1	H372	P260,P264,P270,P314,P501
Hazardous to the Aquatic Environment, Short-term (Acute)	Acute 2	H401	P273,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.

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Hazard Number	Hazard Statement
H227	Combustible liquid
H302+H312	Harmful if swallowed or in contact with skin
H314	Causes severe skin burns and eye damage
H341	Suspected of causing genetic defects
H360	May damage fertility or the unborn child
H372	Causes damage to organs through prolonged or repeated exposure
H401	Toxic to aquatic life
	Corrosive to the respiratory tract

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.
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.
P273	Avoid release to the environment.
P280	Wear protective gloves and eye protection.

Response

Precautionary Number	Precautionary Statement
P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
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.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	If exposed or concerned: Get medical advice or attention.
P310	Immediately call a poison center or doctor.
P330	Rinse mouth.
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.

Storage

Precautionary Number	Precautionary Statement
P403	Store in a well-ventilated place.
P405	Store locked up.

Disposal

Precautionary Number	Precautionary Statement
P501	Dispose of contents/container to suitable waste stream in accordance with local, state, federal, and international regulations.

2.3. Hazards not Otherwise Classified

No other hazards identified.

2.4. Ingredients of Unknown Acute Toxicity

80 percent of this mixture consists of ingredient(s) of unknown acute oral toxicity. 90 percent of this mixture consists of ingredient(s) of unknown acute dermal toxicity. 10 percent of this mixture consists of ingredient(s) of unknown acute inhalation toxicity.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Mixture

Chemical Name (IUPAC)	Common Name and Synonyms	CAS Number	Weight%
2-(2-ethoxyethoxy)ethanol	Diethylene glycol monoethyl ether; Carbitol	111-90-0	75.00
1H-imidazole	Imidazole	288-32-4	10.00
iodine	Iodine	7553-56-2	10.00
Sulfur dioxide	Sulfur Dioxide; Sulphurous anhydride	7446-09-5	5.00

SECTION 4: First-Aid Measures

4.1. Description of Necessary Measures

Eye Contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva.

Ingestion: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Dilute immediately with water or milk.Do not induce vomiting. Call a physician if necessary.

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 irritate skin. May cause allergic skin reaction. May be harmful if absorbed through skin.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Suspected of causing genetic defects EYE CONTACT: May cause irritation with burning and stinging with possible damage to the cornea and conjunctiva. SKIN CONTACT: May cause irritation, allergic rash. Absorption is possible.

4.3. Immediate Medical Attention or Special Treatment Needed

Immediately call a poison center or doctor. Irrigate immediately with large quantity of water for at least 15 minutes. Remove to fresh air. If breathing is difficult, give oxygen. Wash areas of contact with soap and water for at least 15 minutes. Dilute immediately with water or milk. Do not induce vomiting. Call a physician if necessary.

SECTION 5: Fire-Fighting Measures

5.1. Extinguishing Media

In case of fire: Use dry chemical, foam, or carbon dioxide to extinguish. Water spray, fog, carbon dioxide, dry chemical powder, alcohol foam, polymer foam

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

Combustible liquid Flammable in the presence of a source of ignition when the temperature is above the flash point.

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

Wear protective gloves and eye protection.

6.2. Cleanup and Containment Methods and Materials

Remove all sources of ignition. Contain spill. Absorb with suitable inert material (vermiculite, dry sand, etc) 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. 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. Store locked up. As with all chemicals, wash hands thoroughly after handling. Avoid contact with eyes and skin. Protect from freezing and physical damage. Moisture sensitive, keep container tightly closed.

SECTION 8: Exposure Controls / Personal Protection

8.1. Exposure Limits

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

Chemical Name	CAS Number	Exposure Limit
Sulfur Dioxide	7446-09-5	5 ppm TWA; 13 mg/m3 TWA

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

Chemical Name	CAS Number	Exposure Limit
Iodine	7553-56-2	0.1 ppm Ceiling; 1 mg/m3 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)

Chemical Name	CAS Number	Exposure Limit
Sulfur Dioxide	7446-09-5	0.25 ppm STEL

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

Chemical Name	CAS Number	Exposure Limit
Iodine	7553-56-2	0.001 ppm TWA (inhalable fraction and vapor, as I)

8.2. Engineering Controls

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:	Dark brown
Odor:	Data not available.
Odor Threshold:	Data not available.
Melting/Freezing Point:	Data not available.
Boiling Point/Range:	202°C at 1013hPa (760mmHg)
Flammability:	Data not available.
Flammability/Explosive Limits:	Data not available.
Flash Point:	92 °C
Auto-Ignition Temperature:	Data not available.
Decomposition Temperature:	Data not available.
pH:	5.0-6.0 at 20°C
Kinematic Viscosity:	Data not available.
Solubility:	Data not available.
Vapor Pressure:	Data not available.
Evaporation Rate:	Data not available.
Relative Density:	1.10
Relative Vapor Density:	Data not available.
Particle Characteristics:	Data not available.
Partition Coefficient n-octanol/water, log	Data not available.

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. Strong oxidizing agents, heat, sparks, open flames, extremes of temperature and direct sunlight.

10.4. Hazardous Decomposition Products

Will not occur. May form carbon oxides, nitrogen oxides, sulfur oxides, hydrogen iodide, hydrogen cyanide (hydrocyanic acid) in the case of fire.

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SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Oral acute toxicity estimate (ATE): 1940 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Imidazole	288-32-4	Oral LD50 Rat 970 mg/kg (Source: ECHA)
Iodine	7553-56-2	Oral LD50 Rat 14 g/kg (Source: NLM_CIP)

Acute Toxicity - Dermal Exposure:

Dermal acute toxicity estimate (ATE): 1425 mg/kg(calculated)

Chemical Name	CAS Number	Toxicity
Iodine	7553-56-2	Dermal LD50 Rabbit 1425 mg/kg (males, Source: ECHA_API); Dermal LD50 Rabbit >2000 mg/kg (females, Source: ECHA_API)

Acute Toxicity - Inhalation Exposure:

Inhalation acute toxicity estimate (ATE, gas): 25200.0000 ppmV, 4 h(calculated); Inhalation acute toxicity estimate (ATE, dust or mist): 45.8800 mg/

Chemical Name	CAS Number	Toxicity
Diethylene glycol monoethyl ether	111-90-0	Inhalation LC50 Rat >5240 mg/m3 4 h (no deaths occurred, aerosol, nose only, Source: NLM_CIP)
Sulfur Dioxide	7446-09-5	Inhalation LC50 Rat 1260 ppm 4 h (Source: Canada_WHMIS)
Iodine	7553-56-2	Inhalation LC50 Rat >4.588 mg/L 4 h (death occurred (3 out of 10 tested animals), dust, Source: ECHA)

11.2 Carcinogenicity:

International Agency for Research on Cancer (IARC)

Chemical Name	CAS Number	Classification
Sulfur Dioxide	7446-09-5	Group 3 (Not Classified) - Monograph 54 [1992]

National Toxicology Program (NTP)

Chemical Name	CAS Number	Classification
	No data found.	

U.S. OSHA specifically regulated carcinogens

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Chemical Name	CAS Number	Classification
	No data found.	

11.3 Additional Toxicology Information:

Harmful if swallowed or in contact with skin. Causes severe skin burns and eye damage. Suspected of causing genetic defects. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. Corrosive to the respiratory tract.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Chemical Name	CAS Number	Species	Exposure	Toxicity
Imidazole	288-32-4	Freshwater Algae	Acute	EC50 72 h Desmodesmus subspicatus 130 mg/L (IUCLID); EC50 96 h Desmodesmus subspicatus 82 mg/L (IUCLID)
Diethylene glycol monoethyl ether	111-90-0	Freshwater Fish	Acute	LC50 96 h Lepomis macrochirus 10000 mg/L [static] (EPA); LC50 96 h Lepomis macrochirus 19100 - 23900 mg/L [flow-through] (EPA); LC50 96 h Oncorhynchus mykiss 11400 - 15700 mg/L [flow-through] (EPA); LC50 96 h Pimephales promelas 11600 - 16700 mg/L [flow-through] (EPA)
Iodine	7553-56-2	Freshwater Fish	Acute	LC50 96 h Oncorhynchus mykiss 1.67 mg/L [static] (ECHA)
Diethylene glycol monoethyl ether	111-90-0	Water Flea	Acute	EC50 48 h Daphnia magna 3940 - 4670 mg/L (IUCLID)
Imidazole	288-32-4	Water Flea	Acute	EC50 48 h Daphnia magna 341.5 mg/L (IUCLID)

12.2. Persistence and Degradability

Data not available.

12.3. Bioaccumulative Potential

Data not available.

12.4. Mobility in soil

Data not available.

12.5. Other Adverse Ecological Effects

Data not available.

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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: 1 L, 6 L, 220 mL, 500 mL, 3000 mL

UN Number: UN3082

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (2-(2-ethoxyethoxy)ethanol)

Hazard Class: 9

Packing Group: III

Hazard Label(s):

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

Sizes: 1 L, 6 L, 220 mL, 500 mL, 3000 mL

UN Number: UN3082

Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s. (2-(2-ethoxyethoxy)ethanol)

Hazard Class: 9

Packing Group: III

Hazard Label(s):

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14.3 Transportation of Dangerous Goods (TDG, Canada)

Sizes: 1 L, 6 L, 220 mL, 500 mL, 3000 mL

UN Number: UN3082

Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-(2-ethoxyethoxy)ethanol)

Hazard Class: 9

Packing Group: III

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	TPQ
Sulfur Dioxide	7446-09-5	500 lb TPQ	500 lb EPCRA RQ

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

Chemical Name	CAS Number	Regulatory Information
		No data found.

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

Chemical Name	CAS Number	List	Regulatory Information
Diethylene glycol monoethyl ether	111-90-0	Emission Reporting	"1.0 % de minimis concentration (applies to R-(OCH2CH2)n-OR', where n = 1, 2, or 3, R=Alkyl C7 or less, or R = Phenyl or Alkyl substituted phenyl, R' = H or Alkyl C7 or less, or OR' consisting of Carboxylic acid ester, Sulfate, Phosphate, Nitrate, or Sulfonate, listed under Chemical Category N230)" As Glycol ethers [RR-00067-9]

15.05. Massachusetts Right-to-Know Substance List

Chemical Name	CAS Number	Regulatory Information
Sulfur Dioxide	7446-09-5	Extraordinarily hazardous
Iodine	7553-56-2	Present

15.06. Pennsylvania Right-to-Know Hazardous Substances

Chemical Name	CAS Number	Regulatory Information
Diethylene glycol monoethyl ether	111-90-0	"Environmental hazard" As Glycol ethers [RR-00067-9]
Sulfur Dioxide	7446-09-5	Environmental hazard
Iodine	7553-56-2	Present

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

Chemical Name	CAS Number	Regulatory Information
Diethylene glycol monoethyl ether	111-90-0	"sn 3138" As Glycol ethers [RR-00067-9]
Sulfur Dioxide	7446-09-5	sn 1759
Iodine	7553-56-2	sn 1026

15.08. California Proposition 65

Chemical Name	CAS Number	Regulatory Information
Sulfur Dioxide	7446-09-5	developmental toxicity, 7/29/2011

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

Chemical Name	CAS Number	List	Status
Diethylene glycol monoethyl ether	111-90-0	DSL	Present
Imidazole	288-32-4	DSL	Present
Sulfur Dioxide	7446-09-5	DSL	Present
Iodine	7553-56-2	DSL	Present

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

Chemical Name	CAS Number	Status
Diethylene glycol monoethyl ether	111-90-0	Present (ACTIVE)
Imidazole	288-32-4	Present (ACTIVE)
Sulfur Dioxide	7446-09-5	Present (ACTIVE)
Iodine	7553-56-2	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
Diethylene glycol monoethyl ether	111-90-0	EINECS	203-919-7
Imidazole	288-32-4	EINECS	206-019-2
Sulfur Dioxide	7446-09-5	EINECS	231-195-2
Iodine	7553-56-2	EINECS	231-442-4

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

Chemical Name	CAS Number	Status
Diethylene glycol monoethyl ether	111-90-0	Present [07886]
Imidazole	288-32-4	Present [24933]
Sulfur Dioxide	7446-09-5	Present [11370]
Iodine	7553-56-2	Present [05736]

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

Chemical Name	CAS Number	List	Status
Diethylene glycol monoethyl ether	111-90-0	Annex 1	Present [KE-10467]
Imidazole	288-32-4	Annex 1	Present [KE-20937]
Sulfur Dioxide	7446-09-5	Annex 1	Present [KE-32567]
Iodine	7553-56-2	Annex 1	Present [KE-21023]

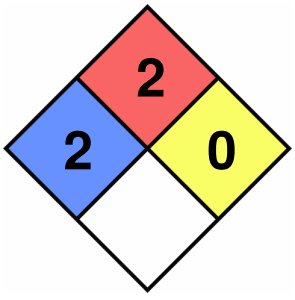
15.14. Japan - Existing and New Chemical Substances Inventory (ENCS)

Chemical Name	CAS Number	MITI No.
Diethylene glycol monoethyl ether	111-90-0	(7)-97, (2)-422
Imidazole	288-32-4	(5)-381
Sulfur Dioxide	7446-09-5	(1)-536
Iodine	7553-56-2	- (exempt)

SECTION 16: Other Information

16.1 National Fire Protection Associate (NFPA) Rating

Health: 2
Flammability: 2
Reactivity 0
Special Hazard:



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16.2 Document Revision

Last Revision Date:
2026-05-23

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.