



Safety Data Sheet

Classified according to WHMIS 2015

SECTION 1: Identification

1.1. Product Identifier

Trade Name or Designation: HydroSpec[®] Composit K5
For One Component Volumetric Titrations of Aldehydes and Ketones

Product Number: RK220000

Other Identifying Product Numbers: RK220000-1C

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: 448 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

Safety Data Sheet

SECTION 2: Hazard(s) Identification

2.1. Classification of the Substance or Mixture

For the full text of the Hazard and Precautionary Statements listed below, see Section 16.

Hazard Class	Category	Hazard Statements	Precautionary Statements:
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
Eye Damage / 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 1	H360	P201, P202, P280, P308+P313, P405, P501
Specific Target Organs/Systemic Toxicity Following Repeated Exposure	Category 1	H372	P260, P264, P270, P314, P501
Hazardous to the Aquatic Environment (Acute)	Category 2	H401	P273, P501

2.2. GHS Label Elements

Pictograms:



Signal Word: **Danger**

Hazard Statements:

Hazard Number	Hazard Statement
H314	Causes severe skin burns and eye damage.
H318	Causes serious 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.

Safety Data Sheet

Precautionary Statements:

Precautionary Number	Precautionary Statement
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes, mist, vapors, or spray.
P264	Wash arms, hands 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.
P301+P330+P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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 attention.
P310	Immediately call a POISON CENTER or physician.
P314	Get medical attention if you feel unwell.
P321	Specific treatment (Wash areas of contact with water.).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents in accordance with local, state, federal and international regulations.

2.4. Hazards not Otherwise Classified or Covered by GHS

Data not available.

SECTION 3: Composition / Information on Ingredients

3.1. Components of Substance or Mixture

Chemical Name	Formula	Molecular Weight	CAS Number	Weight%
Diethylene glycol monoethyl ether	C ₂ H ₅ OCH ₂ CH ₂ OCH ₂ C H ₂ OH	134.17 g/mol	111-90-0	65.00
Imidazole	NHCH:NCH:CH	68.07 g/mol	288-32-4	15.00
Sulfur Dioxide	SO ₂	64.06 g/mol	7446-09-5	10.00
Iodine	I ₂	253.80 g/mol	7553-56-2	10.00



Safety Data Sheet

SECTION 4: First-Aid Measures

4.1. General First Aid Information

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.

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

Ingestion: IF SWALLOWED: rinse mouth. Do NOT induce vomiting. Dilute immediately with water or milk. Do not induce vomiting. Call a physician if necessary.

4.2. Most Important Symptoms and Effects, Acute and Delayed

Causes severe skin burns and eye damage. Causes serious eye damage. Suspected of causing genetic defects. May damage fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure. 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. Medical Attention or Special Treatment Needed

Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). 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

Water spray, fog, carbon dioxide, dry chemical powder, alcohol foam, polymer foam

5.2. Specific Hazards Arising from the Substance or Mixture

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

5.3. Special Protective Equipment 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.

Safety Data Sheet

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 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 Control Parameters

Chemical Name	Limit Type	Country	Exposure Limit	Information Source
Sulfur Dioxide (7446-09-5)	TWA	USA	5 ppm TWA; 13 mg/m ³ TWA	U.S. - OSHA - Final PELs - Time Weighted Averages (TWAs)
Sulfur Dioxide (7446-09-5)	TLV-STEL	USA	0.25 ppm STEL	ACGIH - Threshold Limit Values - Short Term Exposure Limits (TLV-STEL)
Iodine (7553-56-2)	PEL-Ceiling	USA	0.1 ppm Ceiling; 1 mg/m ³ Ceiling	U.S. - OSHA - Final PELs - Ceiling Limits
Iodine (7553-56-2)	TLV-TWA	USA	0.001 ppm TWA (inhalable fraction and vapor, as I)	ACGIH - Threshold Limit Values - Time Weighted Averages (TLV-TWA)

8.2. Exposure Controls

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limit.

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: Wear protective gloves and eye protection. Chemical resistant gloves.

Eye Protection: Wear protective gloves and eye protection. Safety glasses or goggles.

8.3. Personal Protective Equipment

Wear protective gloves and eye protection. Normal room ventilation is adequate. If the exposure limit is exceeded, a full facepiece respirator with organic vapor cartridge may be worn. Chemical resistant gloves. Safety glasses or goggles.

Safety Data Sheet

SECTION 9: Physical and Chemical Properties

9.1. Basic Physical and Chemical Properties

Appearance: Dark brown

Physical State: Liquid

Odor: Data not available.

Odor Threshold: Data not available.

pH: 5.0-6.0 at 20°C

Melting/Freezing Point: Data not available

Initial Boiling Point/Range: 202°C at 1013hPa (760mmHg) - 202°C at 1013hPa (760mmHg)

Flash Point: 92°C - closed cup

Evaporation Rate: Data not available.

Flammability: Data not available.

Flammability/Explosive Limits: Data not available.

Vapor Pressure: Data not available.

Vapor Density: Data not available.

Relative Density: 1.10

Solubility: Data not available.

Partition Coefficient: Data not available.

Auto-Ignition Temperature: Data not available.

Decomposition Temperature: Data not available.

Viscosity: Data not available.

Explosive Properties: Data not available.

Oxidizing Properties: 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

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.

Safety Data Sheet

SECTION 11: Toxicological Information

11.1. Information on Toxicological Effects

Acute Toxicity - Oral Exposure:

Not applicable.

Acute Toxicity - Dermal Exposure:

Not applicable.

Acute Toxicity - Inhalation Exposure:

Not applicable.

Acute Toxicity - Other Information:

LD50, Oral, Rat: (2-(2-ethoxyethoxy)ethanol) 7500 mg/kg, behavioral and nerve effects cited. LD50, Oral, Rat: (Iodine) 14 gm/kg, details of toxic effects not reported other than lethal dose value.

Skin Corrosion and Irritation:

Causes severe skin burns and eye damage. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Wear protective gloves and eye protection. IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Wash contaminated clothing before reuse. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or physician. Specific treatment (Wash areas of contact with water.). IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Serious Eye Damage and Irritation:

Causes serious eye damage. Wear protective gloves and eye protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.

Respiratory Sensitization:

Not applicable.

Skin Sensitization:

Not applicable.

Germ Cell Mutagenicity:

Suspected of causing genetic defects. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Carcinogenicity:

Not applicable.

Reproductive Toxicity:

May damage fertility or the unborn child. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye protection. IF exposed or concerned: Get medical attention. Store locked up. Dispose of contents in accordance with local, state, federal and international regulations.

Specific Target Organ Toxicity from Single Exposure:

Not applicable.



Safety Data Sheet

Specific Target Organ Toxicity from Repeated Exposure:

Causes damage to organs through prolonged or repeated exposure. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Get medical attention if you feel unwell. Dispose of contents in accordance with local, state, federal and international regulations.

Aspiration Hazard:

Not applicable.

Additional Toxicology Information:

Data not available.

SECTION 12: Ecological Information

12.1. Ecotoxicity

Toxic to aquatic life. Avoid release to the environment. Dispose of contents in accordance with local, state, federal and international regulations.

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.

SECTION 13: Disposal Considerations

13.1. Waste Treatment Methods

Data not available.

Safety Data Sheet

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):



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):



Safety Data Sheet

SECTION 15: Regulatory Information

15.1. Occupational Safety and Health Administration (OSHA) Hazards

Not listed.

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

Sulfur Dioxide (CAS # 7446-09-5): 500 lb EPCRA RQ

Sulfur Dioxide (CAS # 7446-09-5): 500 lb TPQ

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

Not listed.

15.4. Superfund Amendments and Reauthorization Act (SARA) 313 Toxic Release Inventory (TRI)

Diethylene glycol monoethyl ether (CAS # 111-90-0): "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]

Diethylene glycol monoethyl ether (CAS # 111-90-0): 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)

15.5. Massachusetts Right-to-Know Substance List

Sulfur Dioxide (CAS # 7446-09-5): Extraordinarily hazardous

Iodine (CAS # 7553-56-2): Present

15.6. Pennsylvania Right-to-Know Hazardous Substances

Diethylene glycol monoethyl ether (CAS # 111-90-0): "Environmental hazard" As Glycol ethers [RR-00067-9]

Diethylene glycol monoethyl ether (CAS # 111-90-0): "Present" As Glycol ethers [RR-00067-9]

Diethylene glycol monoethyl ether (CAS # 111-90-0): Environmental hazard

Diethylene glycol monoethyl ether (CAS # 111-90-0): Present

Sulfur Dioxide (CAS # 7446-09-5): Environmental hazard

Sulfur Dioxide (CAS # 7446-09-5): Present

Iodine (CAS # 7553-56-2): Present

Safety Data Sheet

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

Diethylene glycol monoethyl ether (CAS # 111-90-0): "SN 3138 500 lb TPQ (Category Code N230, except surfactants, includes those glycol ethers that meet the following definition: 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' consists of carboxylic acid ester, sulfate phosphate, nitrate, or sulfonate)" As Glycol ethers [RR-00067-9]

Diethylene glycol monoethyl ether (CAS # 111-90-0): "sn 3138" As Glycol ethers [RR-00067-9]

Diethylene glycol monoethyl ether (CAS # 111-90-0): sn 3138

Diethylene glycol monoethyl ether (CAS # 111-90-0): SN 3138 500 lb TPQ (Category Code N230, except surfactants, includes those glycol ethers that meet the following definition: 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' consists of carboxylic acid ester, sulfate phosphate, nitrate, or sulfonate)

Sulfur Dioxide (CAS # 7446-09-5): sn 1759

Sulfur Dioxide (CAS # 7446-09-5): SN 1759 500 lb TPQ

Iodine (CAS # 7553-56-2): sn 1026

15.8. California Proposition 65

Sulfur Dioxide (CAS # 7446-09-5): developmental toxicity, 7/29/2011

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

Diethylene glycol monoethyl ether (CAS # 111-90-0): Present (DSL)

Imidazole (CAS # 288-32-4): Present (DSL)

Sulfur Dioxide (CAS # 7446-09-5): Present (DSL)

Iodine (CAS # 7553-56-2): Present (DSL)

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

All components of this solution are listed as active on the TSCA Inventory or are mixtures (hydrates) of active items listed on the TSCA Inventory.

Diethylene glycol monoethyl ether (CAS # 111-90-0): Present (ACTIVE)

Imidazole (CAS # 288-32-4): Present (ACTIVE)

Sulfur Dioxide (CAS # 7446-09-5): Present (ACTIVE)

Iodine (CAS # 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)

Diethylene glycol monoethyl ether (CAS # 111-90-0): 203-919-7

Imidazole (CAS # 288-32-4): 206-019-2

Sulfur Dioxide (CAS # 7446-09-5): 231-195-2

Iodine (CAS # 7553-56-2): 231-442-4

Safety Data Sheet

SECTION 16: Other Information

16.1. Full Text of Hazard Statements and Precautionary Statements

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. Toxic to aquatic life.

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe fumes, mist, vapors, or spray. Wash arms, hands and face thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves and eye protection.

IF SWALLOWED: rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. 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 attention. Get medical attention if you feel unwell. Specific treatment (Wash areas of contact with water.). Wash contaminated clothing before reuse.

Store locked up.

Dispose of contents in accordance with local, state, federal and international regulations.

16.2. Miscellaneous Hazard Classes

Canadian Carcinogenicity Hazard Class: Not Applicable.

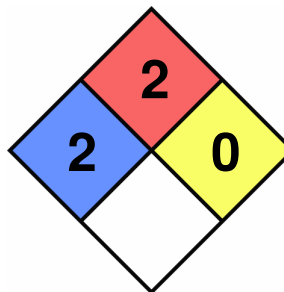
Physical Hazards Not Otherwise Classified (PHNOC): Not Applicable.

Health Hazards Not Otherwise Classified (HHNOC): Not Applicable.

Biohazardous Infectious Materials Hazard Class: Not Applicable.

16.3. National Fire Protection Association (NFPA) Rating

Health: 2
Flammability: 2
Reactivity: 0
Special Hazard:



16.4. Document Revision

Last Revision Date: 2023-11-13

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.