Safety Data Sheet

Version 1.3
Revision Date: June 2, 2023

1. PRODUCT AND COMPANY IDENTIFICATION

Product name:	**WaveTrace™ Coulometric AGR-C Karl Fischer reagent**
Product number:	15572
Supplier:	Quveon, Inc. 599 Raleigh Road Suite C Henderson, NC 27536 USA
Telephone:	1 800 471 3575
Fax:	1 213 283 3909
Emergency Phone #	1 800 424 9300 (CCN812765)

2. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards
Flammable liquid, Irritant, Target Organ Effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Carcinogen, Teratogen

Target Organs
Eyes, Kidney, Liver, Heart, Central nervous system, Blood

GHS Classification
Flammable liquids (Category 2)
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)
Serious eye damage (Category 1)
Reproductive toxicity (Category 1B)
Specific target organ toxicity - single exposure (Category 1)
Specific target organ toxicity - repeated exposure (Category 2)

GHS Label elements, including precautionary statements

Pictogram

Signal word	Danger
Hazard statement(s)	
H225	Highly flammable liquid and vapor.
H301 + H311 + H331	Toxic if swallowed, in contact with skin or inhaled.
H318	Causes serious eye damage.
H360	May damage fertility or the unborn child.
H370	Causes damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P280	Wear protective gloves/eye protection/face protection.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P307 + P311	IF exposed: Call a POISON CENTER or doctor/physician.
P361	Remove/Take off immediately all contaminated clothing
P363	Wash contaminated clothing before reuse
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

HMIS Classification

Health hazard	3
Chronic health hazard *	
Flammability	3
Physical hazards	3

NFPA Rating

Health hazard	3
Fire	3
Reactivity hazard	0

Potential Health Effects

Inhalation	Toxic if inhaled. Causes respiratory tract irritation.
Skin	Toxic if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation
Ingestion	Toxic if swallowed

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	Hazardous	Concentration
Methanol	67-56-1	Yes	40 – 90 %
Chloroform	67-66-3	Yes	10 - 50 %
Imidazole	288-32-4	Yes	10 – 30 %

Sulfur Dioxide	7446-09-5	Yes	10 – 30 %
Diethanolamine	111-42-2	Yes	10 – 30 %
1H-Imidazole, monohydroiodide	68007-08-9	Yes	5 – 10 %

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move the person to fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Take the victim to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Conditions of flammability

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions include carbon oxides, nitrogen oxides, sulfur oxides, hydrogen iodide, hydrogen cyanide (hydrocyanic acid).

Additional information

Use water spray to cool unopened containers

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleaning up

Contain spillage and collect with an electrically protected vacuum cleaner or by wet-brushing and place in a container for disposal according to local regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use explosion-proof electrical equipment. Keep away from all sources of ignition. No smoking. Take measures to prevent the buildup of an electrostatic charge.

Conditions for safe storage

Keep container tightly closed in a dry and well-ventilated location. Opened containers must be carefully resealed and kept upright to prevent leakage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Component	Exposure limits
Methanol	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 200 ppm 8 hour(s) TWA: 262 mg/m^3 8 hour(s) STEL: 250 ppm 15 minute(s) STEL: 328 mg/ m^3 15 minute(s) **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin** TWA: 200 ppm 8 hour(s) TWA: 260 mg/ m^3 8 hour(s) STEL: 250 ppm 15 minute(s) STEL: 325 mg/ m^3 15 minute(s) **NIOSH REL (United States, 6/2009). Absorbed through skin** TWA: 200 ppm 10 hour(s) TWA: 260 mg/ m^3 10 hour(s) STEL: 250 ppm 15 minute(s) STEL: 325 mg/ m^3 15 minute(s) **OSHA PEL (United States, 11/2006)** TWA: 200 ppm 8 hour(s) TWA: 260 mg/ m^3 8 hour(s)
Chloroform	**NIOSH REL (United States, 6/2009)** ST: 2 ppm **OSHA PEL 1989 (United States, 3/1989)** TWA: 50 ppm
Sulfur Dioxide	**ACGIH TLV (United States, 2/2010)** STEL: 0.25 ppm 15 minute(s) **NIOSH REL (United States, 6/2009)** TWA: 2 ppm 10 hour(s) TWA: 5 mg/ m^3 10 hour(s) STEL: 5 ppm 15 minutes STEL: 13 mg/ m^3 15 minute(s) **OSHA PEL (United States, 11/2006)** TWA: 5 ppm 8 hour(s) TWA: 13 mg/ m^3 8 hour(s) **OSHA PEL 1989 (United States, 3/1989)** TWA: 2 ppm 8 hour(s)

	TWA: 5 mg/ m^3 8 hour(s) STEL: 5 ppm 15 minute(s) STEL: 10 mg/ m^3 15 minute(s)
Diethanolamine	**OSHA PEL (United States, 11/2006)** TWA: 3 ppm 8 hour(s) TWA: 1 mg/ m^3 8 hour(s)

Engineering measures
Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Personal protective equipment
Respiratory protection. Where risk assessment shows air purifying respirators are appropriate, use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hand protection. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with the product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
Eye protection. Tightly fitting safety goggles. Face shield. Use equipment for eye protection tested and approved under appropriate government standards.
Skin and body protection. Complete suit protecting against chemicals, flame retardant antistatic protective clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures.
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form	liquid
Color	colorless or with light yellow color
pH	5.0 – 6.0 at 20 C (68 F)
Melting point	no data available
Boiling point	60 C (140 F) at 1013 hPa (760 mmHg)
Flash point	12 C (57 F) – closed cup
Ignition temperature	no data available
Autoignition temperature	no data available
Density	1.060 g/cm3
Water solubility	no data available

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions

Possibility of hazardous reactions
Vapors may form explosive mixture with air

Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight

Materials to avoid
Zinc, Acids, Oxidizing agents, Alkali metals, Iron, Copper, Acid chlorides, Acid anhydrides, Reducing agents, Acids

Hazardous decomposition products
Decomposition products under recommended storage conditions – no data available
Hazardous decomposition products formed under fire conditions – carbon oxides, nitrogen oxides, sulfur oxides, hydrogen iodide, hydrogen cyanide (hydrocyanic acid)

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11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50
LD50 Oral – rat – 2000 mg/kg

Inhalation LC50
No data available

Dermal LD50
No data available

Other information on acute toxicity
No data available
Skin corrosion/irritation
Skin – rabbit – No skin irritation

Serious eye damage/eye irritation
Eyes – rabbit – Risk of serious damage to eyes

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC:	2B – Group 2B: Possibly carcinogenic to humans (Chloroform)
IARC:	3 – Group 3: Not classifiable as to its carcinogenicity to humans (Sulfur dioxide)
NTP:	Reasonably anticipated to be a human carcinogen (Chloroform)
OSHA:	No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA

Reproductive toxicity
No data available

Teratogenicity
No data available

Specific target organ toxicity – single exposure (Globally Harmonized System)
No data available

Specific target organ toxicity – repeated exposure (Globally Harmonized System)
May cause damage to organs through prolonged or repeated exposure

Aspiration hazard
No data available

Potential health effects

Inhalation	Toxic if inhaled. Causes respiratory tract irritation
Ingestion	Toxic if swallowed
Skin	Toxic if absorbed through skin. Causes skin irritation
Eyes	Causes eye irritation

Signs and symptoms of exposure
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects
No data available

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12. ECOLOGICAL INFORMATION

Ecotoxicity
Data not available

BOD5 and COD:
Data not available

Products of Biodegradation
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation
The products of biodegradation are as toxic as the original product

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13. DISPOSAL CONSIDERATIONS

Reagent that cannot be saved for recovery and recycling should be handled as hazardous waste and sent to an RCRA-approved waste facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from the federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

14. TRANSPORT INFORMATION

DOT (US)

UN number: 1230 Class: 3 Packing group: II
Proper shipping name: Methanol, solution
Reportable quantity (RQ): 5000 lbs
Marine pollutant: No
Poison Inhalation Hazard: No

IMDG

UN number: 1230 Class: 3 (6.1) Packing group: II
Proper shipping name: Methanol, solution
Marine pollutant: No

IATA

UN number: 1230 Class: 3 (6.1) Packing group: II
Proper shipping name: Methanol, solution

15. REGULATORY INFORMATION

OSHA Hazards

Flammable liquid, Irritant, Target Organ Effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Carcinogen, Teratogen

SARA 302 Components

The following components are subject to reporting levels established by SARA Title III, Section 302:

	CAS-No.	Revision Date
Chloroform	67-66-3	2008-11-03
Sulfur dioxide	7446-09-5	2007-03-01

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Chloroform	67-66-3	2008-11-03
Diethanolamine	111-42-2	2007-07-01

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Chloroform	67-66-3	2008-11-03
Diethanolamine	111-42-2	2007-07-01
Sulfur dioxide	7446-09-5	2007-03-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01

Chloroform	67-66-3	2008-11-03
Diethanolamine	111-42-2	2007-07-01
Imidazole	288-32-4	
Sulfur dioxide	7446-09-5	2007-03-01
1H-Imidazole, monohydroiodide	68007-08-9	

New Jersey Right To Know Components

	CAS-No.	Revision Date
Methanol	67-56-1	2007-07-01
Chloroform	67-66-3	2008-11-03
Diethanolamine	111-42-2	2007-07-01
Imidazole	288-32-4	
Sulfur dioxide	7446-09-5	2007-03-01
1H-Imidazole, monohydroiodide	68007-08-9	

California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Chloroform	67-66-3	2008-11-03
Diethanolamine	111-42-2	2012-07-20

WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Methanol	67-56-1	2012-03-16
Chloroform	67-66-3	2008-11-03
Sulphur Dioxide	7446-09-5	2011-09-02

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16. OTHER INFORMATION

 The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Quveon, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See www.quveon.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.