SAFETY DATA SHEET

1. Identification

Product identifier: HYDRA-POINT™ COULOMETRIC VESSEL SOLUTION

Other means of identification
Product No.: 6280

Recommended use and restriction on use
Recommended use: Not determined.
Restrictions on use: Not determined.

Details of the supplier of the safety data sheet

Avantor Performance Materials, LLC.
3477 Corporate Parkway
Center Valley, PA 18034

Telephone:
Customer Service: 855-282-6867
Fax: 610-573-2610
Contact Person: Environmental Health & Safety
E-mail: info@avantormaterials.com

Emergency telephone number:
CHEMTREC: 1-800-424-9300 within US and Canada

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable liquids	Category 2
Static-accumulating flammable liquid	Category 1

Health Hazards

Acute toxicity (Oral)	Category 3
Skin Corrosion/Irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Carcinogenicity	Category 1B

Unknown toxicity - Health

Acute toxicity, oral	0 %
Acute toxicity, dermal	60 %
Acute toxicity, inhalation, vapor	100 %
Acute toxicity, inhalation, dust or mist	100 %

Environmental Hazards

Acute hazards to the aquatic environment	Category 3

Unknown toxicity - Environment

Acute hazards to the aquatic environment	0 %
Chronic hazards to the aquatic environment	100 %

Label Elements

Hazard Symbol:

Signal Word: Danger

Hazard Statement:
Highly flammable liquid and vapor.
Toxic if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause cancer.
Harmful to aquatic life.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof [electrical/ventilating/lighting] equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/protective clothing/eye protection/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. If skin irritation occurs: Get medical advice/attention. IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth. IF exposed or concerned: Get medical advice/attention. Take off contaminated clothing.

Storage: Store in a well-ventilated place. Keep cool. Store locked up.

Disposal: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	Content in percent (%)*
Chloroform		67-66-3	40 - 60%
Methyl alcohol		67-56-1	20 - 40%
Proprietary Azole, TSRN004314011-5016		Proprietary	10 - 20%
SULFUR DIOXIDE		7446-09-5	2,5 - 10%
Iodine		7553-56-2	0 - 2,2%

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Get medical advice/attention if you feel unwell. If medical advice is needed, have product container or label at hand.

Ingestion: Call a physician or poison control center immediately. Do not induce vomiting without advice from poison control center. Never give liquid to an unconscious person.

Inhalation: Move to fresh air. Apply artificial respiration if victim is not breathing If breathing is difficult, give oxygen. Get medical attention if symptoms persist.

Skin Contact: Immediately remove contaminated clothing and shoes and wash skin with soap and plenty of water. Call a physician or poison control center immediately. Wash contaminated clothing before reuse. Destroy or thoroughly clean contaminated shoes. If skin irritation or an allergic skin reaction develops, get medical attention.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Symptoms: Toxic if swallowed. Toxic in contact with skin. Causes serious eye irritation.

Hazards: None known.

Indication of immediate medical attention and special treatment needed

Treatment: Symptoms may be delayed.

5. Fire-fighting measures

General Fire Hazards: Combustible liquid and vapor.

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:	Water spray, fog, CO2, dry chemical, or alcohol resistant foam.
Unsuitable extinguishing media:	Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:	Vapors may cause a flash fire or ignite explosively. Vapors may travel considerable distance to a source of ignition and flash back. Heat may cause the containers to explode.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:	Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters:	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:	Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. See Section 8 of the SDS for Personal Protective Equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unauthorized personnel away.
Methods and material for containment and cleaning up:	See Section 8 of the SDS for Personal Protective Equipment. In case of leakage, eliminate all ignition sources. Absorb spill with vermiculite or other inert material, then place in a container for chemical waste. Dike far ahead of larger spill for later recovery and disposal.
Notification Procedures:	Inform authorities if large amounts are involved.
Environmental Precautions:	Do not contaminate water sources or sewer. Prevent further leakage or spillage if safe to do so.

7. Handling and storage

Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Use personal protective equipment as required. Wash hands thoroughly after handling. Avoid contact with eyes, skin, and clothing. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground and bond container and receiving equipment. Take precautionary measures against static discharges.
Conditions for safe storage, including any incompatibilities:	Store in a cool, dry place with adequate ventilation. Keep away from incompatible materials, open flames, and high temperatures. Keep container tightly closed. Ground container and transfer equipment to eliminate static electric sparks. Keep away from food, drink and animal feeding stuffs.

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Exposure Limit Values	Source
Chloroform	TWA	10 ppm 49 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Chloroform	TWA	2 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Chloroform	TWA	10 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Chloroform	TWA	10 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Chloroform	TWA	5 ppm 24,4 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Chloroform	TWA	10 ppm	US. ACGIH Threshold Limit Values (2011)
Methyl alcohol	STEL	328 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	TWA	262 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Methyl alcohol	STEL	250 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	TWA	200 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
Methyl alcohol	TWA	200 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
	STEL	250 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
Methyl alcohol	STEL	250 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWA	200 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Methyl alcohol	15 MIN ACL	250 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	8 HR ACL	200 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Methyl alcohol	TWA	262 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	STEL	328 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Methyl alcohol	TWA	200 ppm	US. ACGIH Threshold Limit Values (2011)
	STEL	250 ppm	US. ACGIH Threshold Limit Values (2011)
SULFUR DIOXIDE	STEL	5 ppm 13 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
	TWA	2 ppm 5,2 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
SULFUR DIOXIDE	TWA	2 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
	STEL	5 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007)
SULFUR DIOXIDE	STEL	0,25 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2011)
SULFUR DIOXIDE	STEL	5 ppm 10,4 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
	TWA	2 ppm 5,2 mg/m3	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)

SULFUR DIOXIDE	8 HR ACL	2 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
	15 MIN ACL	5 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
SULFUR DIOXIDE	STEL	5 ppm 13 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
	TWA	2 ppm 5,2 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
SULFUR DIOXIDE	STEL	0,25 ppm	US. ACGIH Threshold Limit Values (2011)
Iodine	CEILING	0,1 ppm 1 mg/m3	Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) (07 2009)
Iodine	CEILING	0,1 ppm	Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (09 2011)
Iodine - Inhalable fraction and vapor.	TWA	0,01 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2014)
Iodine - Vapor and aerosol.	STEL	0,1 ppm	Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) (03 2014)
Iodine - Inhalable fraction and vapor.	TWA	0,01 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (11 2010)
Iodine	Ceiling	0,1 ppm	Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21) (05 2009)
Iodine	CEILING	0,1 ppm 1,0 mg/m3	Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) (12 2008)
Iodine - Vapor and aerosol.	STEL	0,1 ppm	Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) (06 2015)
Iodine - Inhalable fraction and vapor.	TWA	0,01 ppm	US. ACGIH Threshold Limit Values (03 2014)
Iodine - Vapor and aerosol.	STEL	0,1 ppm	US. ACGIH Threshold Limit Values (03 2014)

Appropriate Engineering Controls No data available.

Individual protection measures, such as personal protective equipment

General information: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. An eye wash and safety shower must be available in the immediate work area.

Eye/face protection: Wear safety glasses with side shields (or goggles) and a face shield.

Skin Protection

Hand Protection: No data available.

Other: Wear suitable protective clothing and gloves.

Respiratory Protection: In case of inadequate ventilation, use respiratory protection.

Hygiene measures: Observe good industrial hygiene practices. Wash hands before breaks and immediately after handling the product. Do not get in eyes. Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Wash contaminated clothing before reuse. Avoid contact with skin.

9. Physical and chemical properties

Appearance

Physical state:	Liquid
Form:	No data available.
Color:	Colorless to light brown
Odor:	Characteristic
Odor threshold:	No data available.
pH:	6
Melting point/freezing point:	No data available.
Initial boiling point and boiling range:	94,4 °C
Flash Point:	> 11 °C
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Upper/lower limit on flammability or explosive limits	
Flammability limit - upper (%):	10,95 %(V)
Flammability limit - lower (%):	estimated 1,8 %(V)
Explosive limit - upper (%):	No data available.
Explosive limit - lower (%):	No data available.
Vapor pressure:	estimated 448 hPa
Vapor density:	No data available.
Density:	1,2 g/cm3
Relative density:	1,2
Solubility(ies)	
Solubility in water:	Miscible with water.
Solubility (other):	No data available.
Partition coefficient (n-octanol/water):	No data available.
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.

10. Stability and reactivity

Reactivity:	No dangerous reaction known under conditions of normal use.
Chemical Stability:	Material is stable under normal conditions.
Possibility of hazardous reactions:	Hazardous polymerization does not occur.
Conditions to avoid:	Heat, sparks, flames.
Incompatible Materials:	Strong oxidizing agents.
Hazardous Decomposition Products:	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

11. Toxicological information

Information on likely routes of exposure

Inhalation:	May cause irritation to the respiratory system.

Skin Contact: Causes skin irritation.

Eye contact: Severely irritating to eyes. May cause chemical eye burns.

Ingestion: Toxic if swallowed. Ingestion may result in unconsciousness, blindness and death.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral
Product: ATEmix: 224,19 mg/kg

Dermal
Product: No data available.

Inhalation
Product: No data available.

Repeated dose toxicity
Product: No data available.

Skin Corrosion/Irritation
Product: No data available.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: May cause sensitization by inhalation and skin contact.

Carcinogenicity
Product: Suspected of causing cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:

Chloroform	Overall evaluation: 2B. Possibly carcinogenic to humans.

US. National Toxicology Program (NTP) Report on Carcinogens:

Chloroform	Hazard Designation: Reasonably Anticipated to be a Human Carcinogen.

ACGIH Carcinogen List:
No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: No data available.

In vivo
Product: No data available.

Reproductive toxicity

Product: May damage fertility or the unborn child.

Specific Target Organ Toxicity - Single Exposure
Product: No data available.

Specific Target Organ Toxicity - Repeated Exposure
Product: No data available.

Aspiration Hazard
Product: No data available.

Other effects: No data available.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Chronic hazards to the aquatic environment:

Fish
Product: No data available.

Aquatic Invertebrates
Product: No data available.

Toxicity to Aquatic Plants
Product: No data available.

Persistence and Degradability

Biodegradation
Product: There are no data on the degradability of this product.

BOD/COD Ratio
Product: No data available.

Bioaccumulative potential
Bioconcentration Factor (BCF)
Product: No data available on bioaccumulation.

Partition Coefficient n-octanol / water (log Kow)
Product: No data available.

Mobility in soil: The product is partly soluble in water. May spread in the aquatic environment.

Other adverse effects: The product contains a substance which is harmful to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

13. Disposal considerations

Disposal instructions: Discharge, treatment, or disposal may be subject to national, state, or local laws. Since emptied containers retain product residue, follow label warnings even after container is emptied.

Contaminated Packaging: No data available.

14. Transport information

TDG

UN Number:	UN 1992
UN Proper Shipping Name:	FLAMMABLE LIQUID, TOXIC, N.O.S.(CONTAINS METHANOL, CHLOROFORM)
Transport Hazard Class(es)	
Class:	3
Label(s):	3, 6.1
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Not determined.

IMDG

UN Number:	UN 1992
UN Proper Shipping Name:	FLAMMABLE LIQUID, TOXIC, N.O.S.(CONTAINS METHANOL, CHLOROFORM)
Transport Hazard Class(es)	
Class:	3
Label(s):	3, 6.1
EmS No.:	F-E, S-D
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Not determined.

IATA

UN Number:	UN 1992
UN Proper Shipping Name:	Flammable liquid, toxic, n.o.s.(contains Methanol, Chloroform)
Transport Hazard Class(es):	
Class:	3
Label(s):	3, 6.1
Packing Group:	II
Marine Pollutant:	No
Special precautions for user:	Not determined.
Cargo aircraft only:	Allowed.

Transport in bulk according to Annex II of MARPOL and the IBC Code: Not applicable

15. Regulatory information

Canada Federal Regulations

List of Toxic Substances (CEPA, Schedule 1)

Chemical Identity
SULFUR DIOXIDE

Export Control List (CEPA 1999, Schedule 3)
Not Regulated

National Pollutant Release Inventory (NPRI)

Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements

NPRI PT5	Methyl alcohol

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

NPRI	ChloroformMethyl alcoholSULFUR DIOXIDE

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

CA CDSI	Not Regulated
CA CDSII	Not Regulated
CA CDSIII	Not Regulated
CA CDSIV	Not Regulated
CA CDSV	Not Regulated
CA CDSVII	Not Regulated
CA CDSVIII	Not Regulated

Precursor Control Regulations

Not Regulated

International regulations

Montreal protocol

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

Australia AICS:	On or in compliance with the inventory
Canada DSL Inventory List:	On or in compliance with the inventory
EU EINECS List:	On or in compliance with the inventory
EU ELINCS List:	Not in compliance with the inventory.
Japan (ENCS) List:	Not in compliance with the inventory.
EU No Longer Polymers List:	Not in compliance with the inventory.
China Inv. Existing Chemical Substances:	On or in compliance with the inventory
Korea Existing Chemicals Inv. (KECI):	On or in compliance with the inventory
Canada NDSL Inventory:	Not in compliance with the inventory.
Philippines PICCS:	On or in compliance with the inventory
US TSCA Inventory:	On or in compliance with the inventory
New Zealand Inventory of Chemicals:	On or in compliance with the inventory
Switzerland Consolidated Inventory:	Not in compliance with the inventory.
Japan ISHL Listing:	Not in compliance with the inventory.
Japan Pharmacopoeia Listing:	Not in compliance with the inventory.

16.Other information, including date of preparation or last revision

Revision Date: 17.05.2018

Version #: 1.1

Further Information: No data available.

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