Printing date 10/27/2017 Reviewed on 10/27/2017

1 Identification

· Product identifier

· Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

· Article number: DC560-277

· Details of the supplier of the safety data sheet

· Manufacturer/Supplier: Aqua Solutions, Inc. 6913 Highway 225 DEER PARK, TX 77536 USA 800-256-2586

· Information department:

Technical Coordinator

Sherman Nelson sherman@aquasolutions.org

· Emergency telephone number:

Chemtrec: 800-424-9300 Canutec: 613-996-6666



2 Hazard(s) identification

· Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Tox. 3 H331 Toxic if inhaled.



GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

STOT SE 1 H370 Causes damage to organs.

STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).

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Trade name: Reagent 50C

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(Contd. of page 1)

· Hazard pictograms









GHS02

GHS06

GHS07

· Signal word Danger

· Hazard-determining components of labeling:

Methanol (Methyl Alcohol)

Toluene

· Hazard statements

Highly flammable liquid and vapor.

Toxic if inhaled.

Causes skin irritation.

Suspected of damaging fertility or the unborn child.

Causes damage to organs.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 2)

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 1 Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable. · **vPvB**: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.

	· Dangerous components:		
ſ	CAS: 108-88-3	Toluene	52.329%
	CAS: 67-56-1	Methanol (Methyl Alcohol)	47.671%

4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· After inhalation:

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

- · After skin contact: Immediately wash with water and soap and rinse thoroughly.
- · After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.
- · After swallowing: If symptoms persist consult doctor.
- · Information for doctor:
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- · Indication of any immediate medical attention and special treatment needed

No further relevant information available.

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Toluene/Methanol 50:50 v/v

(Contd. of page 3)

5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- · Special hazards arising from the substance or mixture

During heating or in case of fire poisonous gases are produced.

- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Mount respiratory protective device.

Wear protective equipment. Keep unprotected persons away.

- · Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- · Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Dispose contaminated material as waste according to item 13.

Ensure adequate ventilation.

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:		
CAS: 108-88-3	Toluene	67 ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	530 ppm
· PAC-2:		
CAS: 108-88-3	Toluene	560 ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	2,100 ppm
· PAC-3:		
CAS: 108-88-3	Toluene	3700* ppm
CAS: 67-56-1	Methanol (Methyl Alcohol)	7200* ppm

7 Handling and storage

- · Handling:
- · Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires:

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 4)

- · Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters

· Components with limit values that require monitoring at the workplace:

CAS: 108-88-3 Toluene

PEL Long-term value: 200 ppm

Ceiling limit value: 300; 500* ppm

*10-min peak per 8-hr shift

REL Short-term value: 560 mg/m³, 150 ppm

Long-term value: 375 mg/m³, 100 ppm

TLV Long-term value: 75 mg/m³, 20 ppm

BEI

CAS: 67-56-1 Methanol (Methyl Alcohol)

PEL Long-term value: 260 mg/m³, 200 ppm

REL Short-term value: 325 mg/m³, 250 ppm

Long-term value: 260 mg/m³, 200 ppm

Skin

TLV Short-term value: 328 mg/m³, 250 ppm

Long-term value: 262 mg/m³, 200 ppm

Skin; BEI

· Ingredients with biological limit values:

CAS: 108-88-3 Toluene

BEI 0.02 mg/L

LD50 Intraperitoneal: blood

Time: prior to last shift of workweek

LD50: Toluene

 $0.03 \ mg/L$

LD50 Intraperitoneal: urine

Time: end of shift LD50: Toluene

0.3 mg/g creatinine

LD50 Intraperitoneal: urine

Time: end of shift

LD50: o-Cresol with hydrolysis (background)

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 5)

CAS: 67-56-1 Methanol (Methyl Alcohol)

BEI 15 mg/L

LD50 Intraperitoneal: urine

Time: end of shift

LD50: Methanol (background, nonspecific)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the skin.

Avoid contact with the eyes and skin.

· Breathing equipment:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

· Body protection: Protective work clothing

9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information
- · Appearance:

Form: Liquid
Color: Clear
Odor: Organic

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

	(Contd. of page
· Odor threshold:	Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	Undetermined. 64 °C (147.2 °F)
· Flash point:	4 °C (39.2 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	455 °C (851 °F)
· Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapo mixtures are possible.
· Explosion limits: Lower: Upper:	1.2 Vol % 44 Vol %
· Vapor pressure at 20 °C (68 °F):	128 hPa (96 mm Hg)
 Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate 	0.83016 g/cm³ (6.92769 lbs/gal) Not determined. Not determined. Not determined.
· Solubility in / Miscibility with Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wate	r): Not determined.
· Viscosity: Dynamic: Kinematic:	Not determined. Not determined.
· Solvent content: Organic solvents: VOC content:	100.0 % 100.00 % 830.2 g/l / 6.93 lb/gl
Solids content: Other information	0.0 % No further relevant information available.

10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known.
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 7)

· Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

· LD/LC50 values that are relevant for classification:		
ATE (Acu	te Toxicity	Estimate)
Oral	LD50	9,555 mg/kg (rat)
Inhalative	LC50/4 h	6.29 mg/l

CAS: 108-	CAS: 108-88-3 Toluene		
Oral	LD50	5,000 mg/kg (rat)	
Dermal	LD50	12,124 mg/kg (rabbit)	
Inhalative	LC50/4 h	5,320 mg/l (mouse)	
CAS: 67-5	CAS: 67-56-1 Methanol (Methyl Alcohol)		
Oral	LD50	5,628 mg/kg (rat)	
Dermal	LD50	15,800 mg/kg (rabbit)	
Inhalative	LC50/4 h	3 mg/l (ATE)	

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: No irritating effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations: Toxic

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)	
CAS: 108-88-3 Toluene	3

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 2 (Self-assessment): hazardous for water

(Contd. on page 9)

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 8)

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- · Results of PBT and vPvB assessment
- · **PBT**: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

4 Transport information		
· UN-Number · DOT, IMDG, IATA	UN1993	
· UN proper shipping name · DOT · IMDG, IATA	Flammable liquids, n.o.s. (Methanol, Toluene) FLAMMABLE LIQUID, N.O.S. (METHANOL, TOLUENE)	
· Transport hazard class(es)		
· DOT		
RAMARE LOUD		
· Class	3 Flammable liquids	
· Label	3	
· IMDG, IATA		
· Class	3 Flammable liquids	
· Label	3	
· Packing group · DOT, IMDG, IATA	II	
· Environmental hazards: · Marine pollutant:	No	
· Special precautions for user	Warning: Flammable liquids	
· Danger code (Kemler):	336	
· EMS Number:	<i>F-E</i> , <u><i>S-E</i></u>	

HC.

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 9) · Stowage Category В · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information: · Quantity limitations On passenger aircraft/rail: 1 L On cargo aircraft only: 60 L · IMDG · Limited quantities (LQ) 1L· Excepted quantities (EQ) Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml UN 1993 FLAMMABLE LIQUIDS, N.O.S. (METHANOL, · UN "Model Regulation": TOLUENE), 3, II

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

All ingredients are listed.

· TSCA (Toxic Substances Control Act):

Toluene

Methanol (Methyl Alcohol)

- · Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

All ingredients are listed.

· Carcinogenic categories

CAS: 108-88-3 Toluene

· EPA (Environmental Protection Agency)

CAS: 108-88-3 Toluene

· TLV (Threshold Limit Value established by ACGIH)

A4

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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II

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 10)

- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms









GHS06 GHS07

· Signal word Danger

· Hazard-determining components of labeling:

Methanol (Methyl Alcohol)

Toluene

· Hazard statements

Highly flammable liquid and vapor.

Toxic if inhaled.

Causes skin irritation.

Suspected of damaging fertility or the unborn child.

Causes damage to organs.

May cause drowsiness or dizziness.

May cause damage to organs through prolonged or repeated exposure.

May be fatal if swallowed and enters airways.

· Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

If swallowed: Immediately call a poison center/doctor.

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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

IF exposed or concerned: Get medical advice/attention.

Get medical advice/attention if you feel unwell.

Specific treatment (see on this label).

Do NOT induce vomiting.

If skin irritation occurs: Get medical advice/attention.

Take off contaminated clothing and wash it before reuse.

In case of fire: Use for extinction: CO2, powder or water spray.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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Trade name: Reagent 50C

Toluene/Methanol 50:50 v/v

(Contd. of page 11)

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environment protection department.
- · Contact:
- · Date of preparation / last revision

10-27-2017: review SDS for accuracy. STN Creation date for SDS 01-15-2015. STN 10/27/2017 / -

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA) HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

 $REL: Recommended\ Exposure\ Limit$

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Acute Tox. 3: Acute toxicity - Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Repr. 2: Reproductive toxicity - Category 2

STOT SE 1: Specific target organ toxicity (single exposure) – Category 1

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Asp. Tox. 1: Aspiration hazard - Category 1

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