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1 Identification	
· Product identifier	
· Trade name: <u>Sulfiodine/Pyridine/</u>	
<u>Cellosolve 1mg/ml</u>	
• Article number: SPX248	
• Details of the supplier of the safety data sheet • Manufacturer/Supplier:	
Aqua Solutions, Inc.	
6913 Highway 225 DEER PARK, TX 77536	SOLUTIONS
USA	
800-256-2586	
• Information department: Technical Coordinator	
Sherman Nelson shermann@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	
\checkmark	
Flammable Liquids 2	H225 Highly flammable liquid and vapor.
GHS06 Skull and crossbones	
Acute Toxicity - Inhalation 3	H331 Toxic if inhaled.
GHS08 Health hazard	
Carcinogenicity 2	H351 Suspected of causing cancer.
Toxic to Reproduction 1B	H360 May damage fertility or the unborn child.
Specific Target Organ Toxicity - Repeated Exposure 1	H372 Causes damage to organs through prolonged or
• • • • • • • • • • • • • • • • • • • •	repeated exposure.
GHS05 Corrosion	
Skin Corrosion 1B	H314 Causes severe skin burns and eye damage.
Eye Damage 1	H318 Causes serious eye damage.
\mathbf{A}	
GHS07	
Acute Toxicity - Oral 4	H302 Harmful if swallowed.

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	(Contd. of page
Acute Toxicity - Dermal 4	H312 Harmful in contact with skin.
· Label elements	
	ed and labeled according to the Globally Harmonized System (GHS).
GHS02 GHS05 GHS06 GHS08	
· Signal word Danger	
· Hazard-determining components of labeli	ng:
Ethylene Glycol Monomethyl Ether	
Pyridine	
Iodine *DEA regulated item	
Sulfur Dioxide	
· Hazard statements	
Highly flammable liquid and vapor.	
Harmful if swallowed or in contact with sk	in.
Toxic if inhaled.	
Causes severe skin burns and eye damage.	
Suspected of causing cancer.	
May damage fertility or the unborn child.	
Causes damage to organs through prolong	ed or repeated exposure.
• Precautionary statements	
<i>Obtain special instructions before use.</i>	
Do not handle until all safety precautions i	uave been read and understood.
Keep away from heat/sparks/open flames/h	
Ground/bond container and receiving equi	
Use explosion-proof electrical/ventilating/	
Use only non-sparking tools.	8 · · · 8 · · 1 · 1
Take precautionary measures against stati	c discharge.
Do not breathe dusts or mists.	
Wash thoroughly after handling.	
Do not eat, drink or smoke when using this	product.
Use only outdoors or in a well-ventilated a	
Wear protective gloves/protective clothing,	
If swallowed: Call a poison center/doctor	
If swallowed: Rinse mouth. Do NOT induc	
	ll contaminated clothing. Rinse skin with water/shower.
IF INHALED: Remove person to fresh air	
	r several minutes. Remove contact lenses, if present and easy to d
Continue rinsing.	
Immediately call a poison center/doctor.	
IF exposed or concerned: Get medical adv	ice/attention.
Specific treatment (see on this label).	
Ĝet medical advice/attention if you feel un	vell.
Take off contaminated clothing and wash i	
Wash contaminated clothing before reuse.	
In case of fire: Use CO2, powder or water	spray to extinguish.
Store in a well-ventilated place. Keep cont	
Store in a well-ventilated place. Keep cool.	
- *	(Contd. on page

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Store locked up. Dispose of contents/container in accordance with local/regional/national/international regulations. · Classification system: · NFPA ratings (scale 0 - 4) Health = 3Fire = 3Reactivity = 0· HMIS-ratings (scale 0 - 4) HEALTH Health = 3FIRE Fire = 33 **REACTIVITY O** Reactivity = 0· 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:		
	Ethylene Glycol Monomethyl Ether	74.056%
CAS: 110-86-1	Pyridine	20.745%
CAS: 7553-56-2	Iodine *DEA regulated item	3.086%
CAS: 7446-09-5	Sulfur Dioxide	2.113%

4 First-aid measures

\cdot 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:

Immediately call a doctor.

Drink copious amounts of water and provide fresh air. Immediately call a doctor.

• Information for doctor:

• Most important symptoms and effects, both acute and delayed No further relevant information available.

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• *Indication of any immediate medical attention and special treatment needed No further relevant information available.*

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
- \cdot 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 product to reach sewage system or any water course.
- Inform respective authorities in case of seepage into water course or sewage system.
- 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). Use neutralizing agent.

Dispose contaminated material as waste according to section 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	:

	Ethylene Glycol Monomethyl Ether	0.3 ppm
CAS: 110-86-1	Pyridine	3 ppm
CAS: 7553-56-2	Iodine *DEA regulated item	0.1 ppm
CAS: 7446-09-5	Sulfur Dioxide	0.20 ppm
· PAC-2:		
	Ethylene Glycol Monomethyl Ether	14 ppm
CAS: 110-86-1	Pyridine	19 ppm
CAS: 7553-56-2	Iodine *DEA regulated item	0.5 ppm
CAS: 7446-09-5	Sulfur Dioxide	0.75 ppm
· PAC-3:		
	Ethylene Glycol Monomethyl Ether	2000* ppm
CAS: 110-86-1	Pyridine	3600* ppm
CAS: 7553-56-2	Iodine *DEA regulated item	5 ppm

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CAS: 7446-09-5 Sulfur Dioxide

(Contd. of page 4) 30 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.
- · 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 section 7.

· Control parameters

-	onents with limit values that require monitoring at the workplace: one Glycol Monomethyl Ether	
PEL	Long-term value: 80 mg/m ³ , 25 ppm Skin	
REL	Long-term value: 0.3 mg/m³, 0.1 ppm Skin	
TLV	Long-term value: 0.1 ppm Skin; BEI	
WEEL	, Skin; B	
CAS: 1	110-86-1 Pyridine	
PEL	Long-term value: 15 mg/m ³ , 5 ppm	
REL	Long-term value: 15 mg/m ³ , 5 ppm	
TLV	Long-term value: 1 ppm A3	
CAS: 2	7553-56-2 Iodine *DEA regulated item	
PEL	Ceiling limit value: 1 mg/m ³ , 0.1 ppm	
REL	Ceiling limit value: 1 mg/m ³ , 0.1 ppm	
TLV	Long-term value: 0.01** mg/m³, 0.001* ppm Skin, A4,*inh. fraction/vapor; **Inhalable	
		(Contd. on page 6

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CAS: 2	7446-09-5 Sulfur Dioxide (Contd. of page
PEL	Long-term value: 13 mg/m ³ , 5 ppm
REL	Short-term value: 13 mg/m ³ , 5 ppm
NEE	Long-term value: 5 mg/m ³ , 2 ppm
TLV	Short-term value: 0.25 ppm
	A4
Ingred	lients with biological limit values:
Ethyle	ne Glycol Monomethyl Ether
	mg/g creatinine
	D50 Intraperitoneal: urine
	ime: end of shift at end of workweek
	D50: 2-Methoxyacetic acid
Additio	onal information: The lists that were valid during the creation were used as basis.
	ure controls
	nal protective equipment:
	al protective and hygienic measures:
	away from foodstuffs, beverages and feed.
	liately remove all soiled and contaminated clothing.
	hands before breaks and at the end of work.
	protective clothing separately.
	contact with the eyes.
	contact with the eyes and skin. hing equipment:
	e of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure i
	atory protective device that is independent of circulating air.
	tion of hands:
110100	tion of numus.
, III	
N	Protective gloves
V	
The glo	ove material has to be impermeable and resistant to the product/ the substance/ the preparation.
	p missing tests no recommendation to the glove material can be given for the product/ the preparation/ i
	cal mixture.
Selecti	ion of the glove material on consideration of the penetration times, rates of diffusion and the degradation
	ial of gloves
	election of the suitable gloves does not only depend on the material, but also on further marks of quality a
	from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance
	ove material can not be calculated in advance and has therefore to be checked prior to the application.
	ration time of glove material
	xact break through time has to be found out by the manufacturer of the protective gloves and has to
	· · · · · · ·
observ	· · · · · · ·



Tightly sealed goggles

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· Body protection: Protective work clothing

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· Information on basic physical and c	hemical properties
· General Information	
· Appearance:	
Form:	Liquid
Color:	Brown
· Odor:	Strong
· Odor threshold:	Not determined.
pH-value:	Not determined.
Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	115 °C (239 °F)
Flash point:	17 °C (62.6 °F)
Flammability (solid, gaseous):	Highly flammable.
• Auto igniting:	310 °C (590 °F)
Decomposition temperature:	Not determined.
Ignition temperature:	Product is not selfigniting.
Danger of explosion:	Product is not explosive. However, formation of explosive air/vapo mixtures are possible.
Explosion limits:	
Lower:	1.7 Vol %
Upper:	20.6 Vol %
Vapor pressure at 20 °C (68 °F):	20 hPa (15 mm Hg)
Density at 20 °C (68 °F):	0.99396 g/cm³ (8.2946 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
Partition coefficient (n-octanol/wate	r): Not determined.
Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
Solvent content:	
Organic solvents:	74.1 %
VOC content:	74.06 %
	736.1 g/l / 6.14 lb/gal
Solids content:	3.1 %

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Cellosolve 1mg/ml

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• Other information

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.
- · 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 (Acute Toxicity Estimate)			
		511 mg/kg	
Dermal	LD50	1,124 mg/kg	
Inhalative	LC50/4h	9.36 mg/l	

· Primary irritant effect:

- on the skin: Caustic effect on skin and mucous membranes.
- \cdot on the eye:
- Strong caustic effect.

Strong irritant with the danger of severe eye injury.

- Sensitization: No sensitizing effects known.
- · Additional toxicological information:

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

- Harmful
- Corrosive
- Irritant

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)			
2B			
3			
· NTP (National Toxicology Program)			
None of the ingredients is listed.			
· OSHA-Ca (Occupational Safety & Health Administration)			
None of the ingredients is listed.			

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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 Do not allow product to reach ground water, water course or sewage system. Must not reach bodies of water or drainage ditch undiluted or unneutralized. 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.

· UN-Number		
· DOT, IMDG, IATA	UN1993	
· UN proper shipping name		
$\cdot DOT$	Flammable liquids, n.o.s. (Pyridine)	
· IMDG, IATA	FLAMMABLE LIQUID, N.O.S. (Pyridine)	
• Transport hazard class(es) • DOT		
· Class	3 Flammable liquids	
· Label	3	

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	(Contd. of page 9)
· IMDG, IATA	
· Class	3 Flammable liquids
· Label	3
· Packing group · DOT, IMDG, IATA	II
• Environmental hazards:	Not applicable.
· Special precautions for user	Warning: Flammable liquids
· Ĥazard identification number (Kemler code)	: 33
• EMS Number:	<i>F-E</i> , <u><i>S-E</i></u>
• Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (PYRIDINE), 3, II

15 Regulatory information

 Safety, health and environmental regulations/legislation specific for the substance or mixture No further relevant information available.
Sara

· Section 355 (extremely hazardous substances):

CAS: 7446-09-5 Sulfur Dioxide

· Section 313 (Specific toxic chemical listings):

Ethylene Glycol Monomethyl Ether

CAS: 110-86-1 Pyridine

· TSCA (Toxic Substances Control Act):

Ethylene Glycol Monomethyl EtherACTIVEPyridineACTIVEIodine *DEA regulated itemACTIVESulfur DioxideACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

 \cdot Chemicals known to cause cancer:

CAS: 110-86-1 Pyridine

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

Ethylene Glycol Monomethyl Ether

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A3

A4

A4

• Chemicals known to cause developmental toxicity:	
	Ethylene Glycol Monomethyl Ether

CAS: 7446-09-5 Sulfur Dioxide

· Carcinogenic categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

CAS: 110-86-1 Pyridine

CAS: 7553-56-2 Iodine *DEA regulated item

CAS: 7446-09-5 Sulfur Dioxide

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

None of the ingredients is listed.

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



· Signal word Danger

· Hazard-determining components of labeling: Ethylene Glycol Monomethyl Ether **Pyridine** Iodine *DEA regulated item Sulfur Dioxide · Hazard statements Highly flammable liquid and vapor. Harmful if swallowed or in contact with skin. Toxic if inhaled. Causes severe skin burns and eye damage. Suspected of causing cancer. May damage fertility or the unborn child. *Causes damage to organs through prolonged or repeated exposure.* · 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 dusts or mists. 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: Call a poison center/doctor if you feel unwell. If swallowed: Rinse mouth. Do NOT induce vomiting.

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(Contd. of page 11)

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 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/doctor.	
IF exposed or concerned: Get medical advice/attention.	
Specific treatment (see on this label).	
Get medical advice/attention if you feel unwell.	
Take off contaminated clothing and wash it before reuse.	
Wash contaminated clothing before reuse.	
In case of fire: Use CO2, powder or water spray to extinguish.	
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.	

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:
- Date of preparation / last revision Revision 0.1, 06/14/2024: Reviewed SDS for accuracy. MH/STN Revision 0.0, 05-29-2024: Creation date for SDS. STN 06/17/2024 / 1.0

· Abbreviations and acronyms: IMDG: International Maritime Code for Dangerous Goods DOT: US Department of Transportation IATA: International Air Transport Association 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 Flammable Liquids 2: Flammable liquids – Category 2 Acute Toxicity - Oral 4: Acute toxicity - Category 4 Acute Toxicity - Inhalation 3: Acute toxicity - Category 3 Skin Corrosion 1B: Skin corrosion/irritation - Category 1B Eye Damage 1: Serious eye damage/eye irritation - Category 1 Carcinogenicity 2: Carcinogenicity – Category 2 Toxic to Reproduction 1B: Reproductive toxicity - Category 1B Specific Target Organ Toxicity - Repeated Exposure 1: Specific target organ toxicity (repeated exposure) - Category 1 \cdot * Data compared to the previous version altered.

US