Printing date 05/31/2024 Reviewed on 05/31/2024

1 Identification

· Product identifier

· Trade name: Phthalic Anhydride-Imidazole-Pyridine

Solution

· Article number: SPX396

· 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 shermann@aquasolutions.org

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

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS08 Health hazard

Sensitization - Respiratory 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carcinogenicity 2 H351 Suspected of causing cancer.

Toxic to Reproduction 1A H360 May damage fertility or the unborn child.



GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.



GHS07

Acute Toxicity - Oral 4 H302 Harmful if swallowed.

Acute Toxicity - Dermal 4 H312 Harmful in contact with skin.

Acute Toxicity - Inhalation 4 H332 Harmful if inhaled. Skin Irritation 2 H315 Causes skin irritation.

Sensitization - Skin 1 H317 May cause an allergic skin reaction.

(Contd. on page 2)

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Solution

(Contd. of page 1)

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









GHS02

GHS05

GHS07

· Signal word Danger

· Hazard-determining components of labeling:

Pyridine

Phthalic Anhydride

Imidazole, Certified

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed, in contact with skin or if inhaled.

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of causing cancer.

May damage fertility or the unborn child.

· 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.

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing 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.

Contaminated work clothing must not be allowed out of the workplace.

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

[In case of inadequate ventilation] wear respiratory protection.

If swallowed: Call a poison center/doctor if you feel unwell.

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).

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

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Trade name: Phthalic Anhydride-Imidazole-Pyridine

Solution

(Contd. of page 2)

In case of fire: Use CO2, powder or water spray to extinguish.

Store in a well-ventilated place. Keep cool.

Store locked up.

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

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



Health = 3 Fire = 3Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = *3 Fire = 3Reactivity = 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:			
CAS: 110-86-1	Pyridine	84.026%	
CAS: 85-44-9	Phthalic Anhydride	13.977%	
CAS: 288-32-4	Imidazole, Certified	1.997%	

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.

· After inhalation:

Supply fresh air and to be sure call for a 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.
- · 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.

US

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Solution

(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.

- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: Mouth respiratory protective device.

6 Accidental release measures

· Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

· Environmental precautions:

Dilute with plenty of water.

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:				
CAS: 110-86-1	Pyridine	3 ррт		
CAS: 85-44-9	Phthalic Anhydride	18 mg/m³		
CAS: 288-32-4	Imidazole, Certified	$0.66 mg/m^3$		
· PAC-2:				
CAS: 110-86-1	Pyridine	19 ppm		
CAS: 85-44-9	Phthalic Anhydride	56 mg/m³		
CAS: 288-32-4	Imidazole, Certified	7.3 mg/m ³		
· PAC-3:				
CAS: 110-86-1	Pyridine	3600* ppm		
CAS: 85-44-9	Phthalic Anhydride	$10,000 \ mg/m^3$		
CAS: 288-32-4	Imidazole, Certified	44 mg/m ³		

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.

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(Contd. of page 4)

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

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

CAS: 110-86-1 Pyridine

PEL Long-term value: 15 mg/m³, 5 ppm REL Long-term value: 15 mg/m³, 5 ppm

TLV Long-term value: 1 ppm

A3

- · 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.

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Solution

(Contd. of page 5)

· 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

Physical and chemical proper	ties
Information on basic physical and c	hemical properties
General Information	
Appearance:	
Form:	Liquid
Color:	Brown
Odor:	Pyridine
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:	550 °C (1,022 °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:	10.6 Vol %
Vapor pressure at 20 °C (68 °F):	20 hPa (15 mm Hg)
Density at 20 °C (68 °F):	1.0517 g/cm³ (8.77644 lbs/gal)
Relative density	Not determined.
Vapor density	Not determined.
Evaporation rate	Not determined.
Solubility in / Miscibility with	
Water:	Fully miscible.
Partition coefficient (n-octanol/wate	r): Not determined.
Viscosity:	
Dynamic:	Not determined.

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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)					
Oral	LD50	500 mg/kg			
Dermal	LD50	1,309 mg/kg			
Inhalative	LC50/4h	13.1 mg/l			

- · Primary irritant effect:
- · on the skin: Irritant to skin and mucous membranes.
- · on the eye: Strong irritant with the danger of severe eye injury.
- · Sensitization:

Sensitization possible through inhalation.

Sensitization possible through skin contact.

· Additional toxicological information:

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

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)		
CAS: 110-86-1	Pyridine	2 <i>B</i>
· NTP (National Toxicology Program)		
None of the ingredients is listed.		
· OSHA-Ca (Occupational Safety & Health Administration)		
None of the ing	gredients is listed.	

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Solution

(Contd. of page 7)

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.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

- · UN-Number
- · DOT, IMDG, IATA

UN2924

· UN proper shipping name

 $\cdot DOT$

Flammable liquids, corrosive, n.o.s. (Pyridine, Phthalic

Anhydride, Imidazole)

• IMDG, IATA FLAMMABLE LIQUID, CORROSIVE, N.O.S. (Pyridine,

Phthalic Anhydride, Imidazole)

- · Transport hazard class(es)
- $\cdot DOT$





Class 3 Flammable liquids

(Contd. on page 9)

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 $Trade\ name:\ Phthalic\ Anhydride-Imidazole-Pyridine$

Solution

(Contd. of page 8) · Label 3, 8 · IMDG · Class 3 Flammable liquids · Label 3/8 \cdot IATA · Class 3 Flammable liquids · Label 3(8)· Packing group · DOT, IMDG, IATA II· Environmental hazards: Not applicable. Warning: Flammable liquids · Special precautions for user · Hazard identification number (Kemler code): 338 · EMS Number: F-E,S-C· Segregation groups (SGG1) Acids, (SGG18) alkalis · Stowage Category · Stowage Code SW2 Clear of living quarters. · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable. · Transport/Additional information: $\cdot DOT$ On passenger aircraft/rail: 1 L · Quantity limitations On cargo aircraft only: 5 L · IMDG · Limited quantities (LQ) Code: E2 · Excepted quantities (EQ) Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml · UN "Model Regulation": UN 2924 FLAMMABLE LIQUID, CORROSIVE, N.O.S. (PYRIDINE, PHTHALIC ANHYDRIDE, IMIDAZOLE), 3 (8), II

15 Regulatory information

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

(Contd. on page 10)

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Solution

(Contd. of page 9)

· Sara

· Section 355 (extremely hazardous substances):

None of the ingredients is listed.

· Section 313 (Specific toxic chemical listings):

CAS: 110-86-1 Pyridine

CAS: 85-44-9 Phthalic Anhydride

· TSCA (Toxic Substances Control Act):

Pyridine ACTIVE
Phthalic Anhydride ACTIVE
Imidazole, Certified ACTIVE

· Hazardous Air Pollutants

CAS: 85-44-9 Phthalic Anhydride

· Proposition 65

· 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:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories

EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value)

 CAS: 110-86-1
 Pyridine
 A3

 CAS: 85-44-9
 Phthalic Anhydride
 A4

· 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:

Pyridine

Phthalic Anhydride

Imidazole, Certified

· Hazard statements

Highly flammable liquid and vapor.

Harmful if swallowed, in contact with skin or if inhaled.

(Contd. on page 11)

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 $Trade\ name:\ Phthalic\ Anhydride-Imidazole-Pyridine$

Solution

(Contd. of page 10)

Causes skin irritation.

Causes serious eye damage.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Suspected of causing cancer.

May damage fertility or the unborn child.

· 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.

Keep container tightly closed.

Ground/bond container and receiving equipment.

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

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing 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.

Contaminated work clothing must not be allowed out of the workplace.

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

[In case of inadequate ventilation] wear respiratory protection.

If swallowed: Call a poison center/doctor if you feel unwell.

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).

Rinse mouth.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

If experiencing respiratory symptoms: Call a poison center/doctor.

Wash contaminated clothing before reuse.

In case of fire: Use CO2, powder or water spray to extinguish.

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 1.2, 05/31/2024: Reviewed SDS for accuracy. MH/STN

Creation date for SDS 10-21-2014. STN

05/31/2024

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Trade name: Phthalic Anhydride-Imidazole-Pyridine Solution

(Contd. of page 11)

· 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

Flammable Liquids 2: Flammable liquids – Category 2 Acute Toxicity - Oral 4: Acute toxicity – Category 4

Skin Irritation 2: Skin corrosion/irritation – Category 2 Eye Damage 1: Serious eye damage/eye irritation – Category 1

Sensitization - Respiratory 1: Respiratory sensitisation - Category 1

Sensitization - Skin 1: Skin sensitisation - Category 1 Carcinogenicity 2: Carcinogenicity - Category 2

Toxic to Reproduction 1A: Reproductive toxicity – Category 1A

* Data compared to the previous version altered.

- IIS