

SAFETY DATA SHEET

ISH Pepsin Kit, Part Number G9411A

Section 1. Identification

Product identifier : ISH Pepsin Kit, Part Number G9411A
Part no. (chemical kit) : G9411A
Part no. : Pepsin 5190-7748
 Pepsin Diluent (10X) 5190-7749

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Analytical reagent.
 Pepsin 48 ml (2 mg/ml)
 Pepsin Diluent (10X) 48 ml

Supplier/Manufacturer : Agilent Technologies, Inc.
 5301 Stevens Creek Blvd
 Santa Clara, CA 95051, USA
 800-227-9770

Emergency telephone number (with hours of operation) : CHEMTREC®: 1-800-424-9300

Section 2. Hazard identification

Classification of the substance or mixture

Pepsin

H226 FLAMMABLE LIQUIDS - Category 3
 H334 RESPIRATORY SENSITIZATION - Category 1
 H317 SKIN SENSITIZATION - Category 1A
 H411 AQUATIC HAZARD (LONG-TERM) - Category 2

Pepsin Diluent (10X)

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN IRRITATION - Category 2
 H319 EYE IRRITATION - Category 2A
 H317 SKIN SENSITIZATION - Category 1A
 H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
 H400 AQUATIC HAZARD (ACUTE) - Category 1
 H410 AQUATIC HAZARD (LONG-TERM) - Category 1

GHS label elements

Hazard pictograms

: Pepsin

Pepsin Diluent (10X)



Signal word

: Pepsin Danger
 Pepsin Diluent (10X) Danger

Section 2. Hazard identification

Hazard statements	: Pepsin	H226 - Flammable liquid and vapor. H317 - May cause an allergic skin reaction. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H411 - Toxic to aquatic life with long lasting effects.
	Pepsin Diluent (10X)	H225 - Highly flammable liquid and vapor. H315 - Causes skin irritation. H317 - May cause an allergic skin reaction. H319 - Causes serious eye irritation. H336 - May cause drowsiness or dizziness. H410 - Very toxic to aquatic life with long lasting effects.
<u>Precautionary statements</u>		
Prevention	: Pepsin	P280 - Wear protective gloves. P284 - Wear respiratory protection.
	Pepsin Diluent (10X)	P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment. P261 - Avoid breathing vapor. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P273 - Avoid release to the environment. P261 - Avoid breathing vapor. P264 - Wash thoroughly after handling.
Response	: Pepsin	P391 - Collect spillage. P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P391 - Collect spillage. P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
	Pepsin Diluent (10X)	P391 - Collect spillage. P304 + P312 - IF INHALED: Call a POISON CENTER or doctor if you feel unwell. P362 + P364 - Take off contaminated clothing and wash it before reuse. P302 + P352 - IF ON SKIN: Wash with plenty of water. P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical advice or attention.
Storage	: Pepsin Pepsin Diluent (10X)	Not applicable. P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Section 2. Hazard identification

Disposal	: Pepsin	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
	Pepsin Diluent (10X)	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: Pepsin	None known.
	Pepsin Diluent (10X)	None known.
Other hazards which do not result in classification	: Pepsin	None known.
	Pepsin Diluent (10X)	None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Pepsin	Mixture
	Pepsin Diluent (10X)	Mixture

Ingredient name	Synonyms	% (w/w)	CAS number
Pepsin			
Propan-2-ol	Isopropanol	≥5 - ≤10	67-63-0
pepsin A	Pepsin A	≥0.1 - ≤1	9001-75-6
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	≤0.1	55965-84-9
Pepsin Diluent (10X)			
Propan-2-ol	Isopropanol	≥60 - ≤80	67-63-0
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	≥0.1 - ≤1	55965-84-9
Dodecan-1-ol, ethoxylated	Poly(oxy-1,2-ethanediyl), .alpha.-dodecyl-.omega.-hydroxy-	≥0.1 - ≤1	9002-92-0

Ranges if listed above for hazardous ingredient(s) are prescribed ranges. The actual concentration(s) or actual concentration range(s) are being withheld as a trade secret.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact	: Pepsin	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
	Pepsin Diluent (10X)	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids.

Section 4. First-aid measures

Inhalation

: Pepsin

Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.

Pepsin Diluent (10X)

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

: Pepsin

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Pepsin Diluent (10X)

Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion

: Pepsin

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never

Section 4. First-aid measures

Pepsin Diluent (10X)

give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Pepsin
Pepsin Diluent (10X)

No known significant effects or critical hazards. Causes serious eye irritation.

Inhalation : Pepsin
Pepsin Diluent (10X)

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.

Skin contact : Pepsin
Pepsin Diluent (10X)

May cause an allergic skin reaction. Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Pepsin
Pepsin Diluent (10X)

No known significant effects or critical hazards. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : Pepsin
Pepsin Diluent (10X)

No specific data.
Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : Pepsin
Pepsin Diluent (10X)

Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Pepsin
Pepsin Diluent (10X)

Adverse symptoms may include the following:
irritation
redness
Adverse symptoms may include the following:
irritation
redness

Ingestion : Pepsin
Pepsin Diluent (10X)

No specific data.
No specific data.

Section 4. First-aid measures

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Pepsin Pepsin Diluent (10X)	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
Specific treatments	: Pepsin Pepsin Diluent (10X)	No specific treatment. No specific treatment.
Protection of first-aiders	: Pepsin Pepsin Diluent (10X)	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	: Pepsin Pepsin Diluent (10X)	Use dry chemical, CO ₂ , water spray (fog) or foam. Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Pepsin Pepsin Diluent (10X)	Do not use water jet. Do not use water jet.
Specific hazards arising from the chemical	: Pepsin Pepsin Diluent (10X)	Flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Section 5. Fire-fighting measures

Hazardous thermal decomposition products	: Pepsin Pepsin Diluent (10X)	Decomposition products may include the following materials: carbon dioxide carbon monoxide Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
Special protective actions for fire-fighters	: Pepsin Pepsin Diluent (10X)	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: Pepsin Pepsin Diluent (10X)	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Pepsin Pepsin Diluent (10X)	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
------------------------------------	--------------------------------------	--

Section 6. Accidental release measures

For emergency responders : Pepsin

Pepsin Diluent (10X)

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Pepsin

Pepsin Diluent (10X)

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

Methods and materials for containment and cleaning up

Methods for cleaning up : Pepsin

Pepsin Diluent (10X)

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor.
Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures :  Pepsin

Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures

Section 7. Handling and storage

Pepsin Diluent (10X)		<p>against electrostatic discharges. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container. Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.</p>
Advice on general occupational hygiene	: Pepsin	<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
Pepsin Diluent (10X)		<p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.</p>
Conditions for safe storage, including any incompatibilities	: Pepsin	<p>Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from alkalis. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.</p>
Pepsin Diluent (10X)		<p>Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from alkalis. Separate from oxidizing materials.</p>

Section 7. Handling and storage

Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

[Control parameters](#)

[Occupational exposure limits](#)

Ingredient name	Exposure limits
Pepsin Propan-2-ol	<p>CA Alberta Provincial (Canada, 6/2018). 15 min OEL: 984 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 400 ppm 15 minutes. 8 hrs OEL: 492 mg/m³ 8 hours.</p> <p>CA British Columbia Provincial (Canada, 3/2022). TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes.</p> <p>CA Ontario Provincial (Canada, 6/2019). TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes.</p> <p>CA Quebec Provincial (Canada, 6/2021). TWAEV: 400 ppm 8 hours. TWAEV: 983 mg/m³ 8 hours. STEV: 500 ppm 15 minutes. STEV: 1230 mg/m³ 15 minutes.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 400 ppm 15 minutes. TWA: 200 ppm 8 hours.</p>
Pepsin Diluent (10X) Propan-2-ol	<p>CA Alberta Provincial (Canada, 6/2018). 15 min OEL: 984 mg/m³ 15 minutes. 8 hrs OEL: 200 ppm 8 hours. 15 min OEL: 400 ppm 15 minutes. 8 hrs OEL: 492 mg/m³ 8 hours.</p> <p>CA British Columbia Provincial (Canada, 3/2022). TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes.</p> <p>CA Ontario Provincial (Canada, 6/2019). TWA: 200 ppm 8 hours. STEL: 400 ppm 15 minutes.</p> <p>CA Quebec Provincial (Canada, 6/2021). TWAEV: 400 ppm 8 hours. TWAEV: 983 mg/m³ 8 hours. STEV: 500 ppm 15 minutes. STEV: 1230 mg/m³ 15 minutes.</p> <p>CA Saskatchewan Provincial (Canada, 7/2013). STEL: 400 ppm 15 minutes.</p>

Section 9. Physical and chemical properties and safety characteristics

Color	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
Odor	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
Odor threshold	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
pH	: Pepsin	2
	Pepsin Diluent (10X)	2
Melting point/freezing point	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
Boiling point, initial boiling point, and boiling range	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
Flash point	: Pepsin	Closed cup: 37.8 to 61°C (100 to 141.8°F)
	Pepsin Diluent (10X)	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
Evaporation rate	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.
Flammability	: Pepsin	Not applicable.
	Pepsin Diluent (10X)	Not applicable.
Lower and upper explosion limit/flammability limit	: Pepsin	Not available.
	Pepsin Diluent (10X)	Not available.

Vapor pressure	:	<table border="1"> <thead> <tr> <th rowspan="2">Ingredient name</th> <th colspan="2">Vapor Pressure at 20°C</th> <th colspan="3">Vapor pressure at 50°C</th> </tr> <tr> <th>mm Hg</th> <th>kPa</th> <th>Method</th> <th>mm Hg</th> <th>kPa</th> <th>Method</th> </tr> </thead> <tbody> <tr> <td>Pepsin</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Propan-2-ol</td> <td>33</td> <td>4.4</td> <td></td> <td>177</td> <td>23.6</td> <td></td> </tr> <tr> <td>water</td> <td>23.8</td> <td>3.2</td> <td></td> <td>92.258</td> <td>12.3</td> <td></td> </tr> <tr> <td>Pepsin Diluent (10X)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Propan-2-ol</td> <td>33</td> <td>4.4</td> <td></td> <td>177</td> <td>23.6</td> <td></td> </tr> <tr> <td>water</td> <td>23.8</td> <td>3.2</td> <td></td> <td>92.258</td> <td>12.3</td> <td></td> </tr> </tbody> </table>			Ingredient name	Vapor Pressure at 20°C		Vapor pressure at 50°C			mm Hg	kPa	Method	mm Hg	kPa	Method	Pepsin							Propan-2-ol	33	4.4		177	23.6		water	23.8	3.2		92.258	12.3		Pepsin Diluent (10X)							Propan-2-ol	33	4.4		177	23.6		water	23.8	3.2		92.258	12.3	
Ingredient name	Vapor Pressure at 20°C		Vapor pressure at 50°C																																																							
	mm Hg	kPa	Method	mm Hg	kPa	Method																																																				
Pepsin																																																										
Propan-2-ol	33	4.4		177	23.6																																																					
water	23.8	3.2		92.258	12.3																																																					
Pepsin Diluent (10X)																																																										
Propan-2-ol	33	4.4		177	23.6																																																					
water	23.8	3.2		92.258	12.3																																																					

Relative vapor density : Pepsin Not available.
Pepsin Diluent (10X) Not available.

Relative density : Pepsin Not available.
Pepsin Diluent (10X) Not available.

Solubility(ies)	:	<table border="1"> <thead> <tr> <th>Media</th> <th>Result</th> </tr> </thead> <tbody> <tr> <td>Pepsin</td> <td></td> </tr> <tr> <td>water</td> <td>Soluble</td> </tr> <tr> <td>Pepsin Diluent (10X)</td> <td></td> </tr> <tr> <td>water</td> <td>Soluble</td> </tr> </tbody> </table>	Media	Result	Pepsin		water	Soluble	Pepsin Diluent (10X)		water	Soluble
Media	Result											
Pepsin												
water	Soluble											
Pepsin Diluent (10X)												
water	Soluble											

Partition coefficient: n-octanol/water : Pepsin Not applicable.
Pepsin Diluent (10X) Not applicable.

Auto-ignition temperature :

Section 9. Physical and chemical properties and safety characteristics

Ingredient name	°C	°F	Method
Pepsin			
Propan-2-ol	456	852.8	
Pepsin Diluent (10X)			
Propan-2-ol	456	852.8	

Decomposition temperature : Pepsin Not available.
Pepsin Diluent (10X) Not available.

Viscosity : Pepsin Not available.
Pepsin Diluent (10X) Not available.

Particle characteristics

Median particle size : Pepsin Not applicable.
Pepsin Diluent (10X) Not applicable.

Section 10. Stability and reactivity

Reactivity : Pepsin No specific test data related to reactivity available for this product or its ingredients.
Pepsin Diluent (10X) No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : Pepsin The product is stable.
Pepsin Diluent (10X) The product is stable.

Possibility of hazardous reactions : Pepsin Under normal conditions of storage and use, hazardous reactions will not occur.
Pepsin Diluent (10X) Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : Pepsin Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Pepsin Diluent (10X) Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Pepsin Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis
oxidizing materials
Pepsin Diluent (10X) Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis
oxidizing materials

Section 10. Stability and reactivity

Hazardous decomposition products : Pepsin

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Pepsin Diluent (10X)

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Pepsin				
Propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	LC50 Inhalation Vapor	Rat	0.33 mg/l	4 hours
	LD50 Dermal	Rabbit	87.12 mg/kg	-
	LD50 Oral	Rat	53 mg/kg	-
Pepsin Diluent (10X)				
Propan-2-ol	LD50 Dermal	Rabbit	12800 mg/kg	-
	LD50 Oral	Rat	5000 mg/kg	-
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	LC50 Inhalation Vapor	Rat	0.33 mg/l	4 hours
	LD50 Dermal	Rabbit	87.12 mg/kg	-
	LD50 Oral	Rat	53 mg/kg	-
Dodecan-1-ol, ethoxylated	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat - Female	1000 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Pepsin					
Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Pepsin Diluent (10X)					
Propan-2-ol	Eyes - Moderate irritant	Rabbit	-	10 mg	-
	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Dodecan-1-ol, ethoxylated	Eyes - Severe irritant	Rabbit	-	24 hours 750 ug	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Section 11. Toxicological information

Carcinogenicity

Conclusion/Summary : Not available.

Classification

Product/ingredient name	IARC	NTP	ACGIH
Pepsin Propan-2-ol	3	-	A4
Pepsin Diluent (10X) Propan-2-ol	3	-	A4

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Pepsin Propan-2-ol pepsin A	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation
Pepsin Diluent (10X) Propan-2-ol Dodecan-1-ol, ethoxylated	Category 3 Category 3	- -	Narcotic effects Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : **Pepsin**
Pepsin Diluent (10X)

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : Pepsin
Pepsin Diluent (10X)

No known significant effects or critical hazards.
Causes serious eye irritation.

Inhalation : Pepsin
Pepsin Diluent (10X)

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Can cause central nervous system (CNS) depression.
May cause drowsiness or dizziness.

Skin contact : Pepsin
Pepsin Diluent (10X)

May cause an allergic skin reaction.
Causes skin irritation. May cause an allergic skin reaction.

Ingestion : Pepsin
Pepsin Diluent (10X)

No known significant effects or critical hazards.
Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

Eye contact	: Pepsin Pepsin Diluent (10X)	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Pepsin Pepsin Diluent (10X)	Adverse symptoms may include the following: wheezing and breathing difficulties asthma Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	: Pepsin Pepsin Diluent (10X)	Adverse symptoms may include the following: irritation redness Adverse symptoms may include the following: irritation redness
Ingestion	: Pepsin Pepsin Diluent (10X)	No specific data. No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.



Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	:  Pepsin Pepsin Diluent (10X)	Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
Carcinogenicity	: Pepsin Pepsin Diluent (10X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Pepsin Pepsin Diluent (10X)	No known significant effects or critical hazards. No known significant effects or critical hazards.
Reproductive toxicity	:  Pepsin Pepsin Diluent (10X)	No known significant effects or critical hazards. No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Section 11. Toxicological information

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Pepsin					
Pepsin	83333.3	N/A	N/A	N/A	N/A
Propan-2-ol	5000	12800	N/A	72.2	N/A
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	53	87.12	N/A	0.5	N/A
Pepsin Diluent (10X)					
Pepsin Diluent (10X)	8333.3	N/A	N/A	N/A	N/A
Propan-2-ol	5000	12800	N/A	72.2	N/A
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	53	87.12	N/A	0.5	N/A
Dodecan-1-ol, ethoxylated	1000	2500	N/A	N/A	N/A

Other information : Pepsin

Adverse symptoms may include the following:
Repeated exposure may cause skin dryness or cracking.

Pepsin Diluent (10X)

Not available.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Pepsin			
Propan-2-ol	Acute EC50 7550 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	Acute LC50 0.16 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 0.19 mg/l Fresh water	Fish	96 hours
	Chronic NOEC >0.0464 mg/l Fresh water	Fish	96 hours
Pepsin Diluent (10X)			
Propan-2-ol	Acute EC50 7550 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1400000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 4200 mg/l Fresh water	Fish - Rasbora heteromorpha	96 hours
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	Acute LC50 0.16 mg/l Fresh water	Daphnia	48 hours
	Acute LC50 0.19 mg/l Fresh water	Fish	96 hours
	Chronic NOEC >0.0464 mg/l Fresh water	Fish	96 hours
Dodecan-1-ol, ethoxylated	Acute LC50 6460 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 1500 µg/l Fresh water	Fish - Salmo salar - Parr	96 hours

Persistence and degradability

Section 12. Ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
Pepsin 5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	62 % - Readily - 28 days	-	-
Pepsin Diluent (10X) 5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	OECD 301B Ready Biodegradability - CO ₂ Evolution Test	62 % - Readily - 28 days	-	-
Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability	
Pepsin Propan-2-ol	-	-	Readily	
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	-	-	Readily	
Pepsin Diluent (10X) Propan-2-ol	-	-	Readily	
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	-	-	Readily	

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Pepsin Propan-2-ol	0.05	-	low
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	0.326	-	low
Pepsin Diluent (10X) Propan-2-ol	0.05	-	low
5-Chloro-2-methyl-3(2H)-isothiazolone mixt. with 2-methyl-3(2H)-isothiazolone	0.326	-	low

Mobility in soil

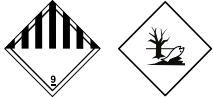
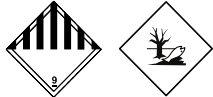

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN3316	UN3316	UN3316
UN proper shipping name	CHEMICAL KIT	CHEMICAL KIT	Chemical kit
Transport hazard class(es)	9 	9 	9 
Packing group	II	II	II
Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.

Proof of classification statement : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark).

Additional information

TDG Classification : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.43-2.45 (Class 9), 2.7 (Marine pollutant mark). The marine pollutant mark is not required when transported by road or rail.
Passenger Carrying Road or Rail Index 10
Special provisions 65, 141

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, _S-P_
Special provisions 251, 340

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 10 kg. Packaging instructions: 960. Cargo Aircraft Only: 10 kg. Packaging instructions: 960. Limited Quantities - Passenger Aircraft: 1 kg. Packaging instructions: Y960.
Special provisions A44, A163

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

Canadian lists

- Canadian NPRI** : The following components are listed: isopropyl alcohol
CEPA Toxic substances : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

- Australia** : Not determined.
Canada : All components are listed or exempted.
China : All components are listed or exempted.
Eurasian Economic Union : **Russian Federation inventory**: All components are listed or exempted.
Japan : **Japan inventory (CSCL)**: Not determined.
Japan inventory (ISHL): Not determined.
New Zealand : All components are listed or exempted.
Philippines : All components are listed or exempted.
Republic of Korea : All components are listed or exempted.
Taiwan : All components are listed or exempted.
Thailand : Not determined.
Turkey : Not determined.
United States : Not determined.
Viet Nam : All components are listed or exempted.

Section 16. Other information

History

- Date of issue/Date of revision** : 03/23/2023
Date of previous issue : 02/24/2020
Version : 5
Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
HPR = Hazardous Products Regulations
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available

Section 16. Other information

UN = United Nations

[Procedure used to derive the classification](#)

Classification	Justification
Pepsin FLAMMABLE LIQUIDS - Category 3 RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1A AQUATIC HAZARD (LONG-TERM) - Category 2	On basis of test data Calculation method Calculation method Calculation method
Pepsin Diluent (10X) FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SKIN SENSITIZATION - Category 1A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 AQUATIC HAZARD (ACUTE) - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1	On basis of test data Expert judgment Expert judgment Calculation method Calculation method Calculation method Calculation method

✔ Indicates information that has changed from previously issued version.

[Notice to reader](#)

Disclaimer: The information contained in this document is based on Agilent's state of knowledge at the time of preparation. No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.