

Section 2. Hazards identification

H312	ACUTE TOXICITY (dermal) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys and liver) - Category 2

Sample 3

H225	FLAMMABLE LIQUIDS - Category 2
H302	ACUTE TOXICITY (oral) - Category 4
H312	ACUTE TOXICITY (dermal) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys and liver) - Category 2

Sample 4

H225	FLAMMABLE LIQUIDS - Category 2
H302	ACUTE TOXICITY (oral) - Category 4
H312	ACUTE TOXICITY (dermal) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H319	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, central nervous system (CNS), kidneys and liver) - Category 2

2.2 GHS label elements

Hazard pictograms



Signal word

: Sample 1	Danger
Sample 2	Danger
Sample 3	Danger
Sample 4	Danger

Hazard statements

: Sample 1	H225 - Highly flammable liquid and vapor. H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled. H319 - Causes serious eye irritation. H373 - May cause damage to organs through prolonged or repeated exposure. (blood system, central nervous system (CNS), kidneys, liver)
Sample 2	H225 - Highly flammable liquid and vapor. H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled. H319 - Causes serious eye irritation. H373 - May cause damage to organs through prolonged or repeated exposure. (blood system, central nervous system (CNS), kidneys, liver)
Sample 3	H225 - Highly flammable liquid and vapor. H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled. H319 - Causes serious eye irritation. H373 - May cause damage to organs through prolonged or repeated exposure. (blood system, central nervous system (CNS), kidneys, liver)
Sample 4	H225 - Highly flammable liquid and vapor. H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled.

Section 2. Hazards identification

H319 - Causes serious eye irritation.
H373 - May cause damage to organs through prolonged or repeated exposure. (blood system, central nervous system (CNS), kidneys, liver)

Precautionary statements

Prevention

: Sample 1

P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.

Sample 2

P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
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Sample 3

P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.

Sample 4

P264 - Wash hands thoroughly after handling.
P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
P210 - Keep away from heat, hot surfaces, sparks,

Section 2. Hazards identification

Response

: Sample 1

open flames and other ignition sources. No smoking.
P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P233 - Keep container tightly closed.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash hands thoroughly after handling.
P314 - Get medical attention if you feel unwell.
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.
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 attention.
P314 - Get medical attention if you feel unwell.
P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.
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 attention.
P314 - Get medical attention if you feel unwell.

Sample 2

Sample 3

Section 2. Hazards identification

P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.

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 attention.

Sample 4

P314 - Get medical attention if you feel unwell.

P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.

P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P302 + P352 + P312 + P362+P364 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse.

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 attention.

Storage

: Sample 1

P403 - Store in a well-ventilated place.

P235 - Keep cool.

Sample 2

P403 - Store in a well-ventilated place.

P235 - Keep cool.

Sample 3

P403 - Store in a well-ventilated place.

P235 - Keep cool.

Sample 4

P403 - Store in a well-ventilated place.

P235 - Keep cool.

Disposal

: Sample 1

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Sample 2

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Sample 3

P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 2. Hazards identification

	Sample 4	international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements	: <input checked="" type="checkbox"/> Sample 1 Sample 2 Sample 3 Sample 4	None known. None known. None known. None known.
2.3 Other hazards		
Hazards not otherwise classified	: Sample 1 Sample 2 Sample 3 Sample 4	None known. None known. None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Sample 1 Sample 2 Sample 3 Sample 4	Mixture Mixture Mixture Mixture
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Ingredient name	%	CAS number
<input checked="" type="checkbox"/> Sample 1 Acetonitrile	≥90	75-05-8
Sample 2 Acetonitrile	≥90	75-05-8
Sample 3 Acetonitrile	≥90	75-05-8
Sample 4 Acetonitrile	≥90	75-05-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

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

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

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: Sample 1	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.
	Sample 2	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.
	Sample 3	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses.

Section 4. First aid measures

Inhalation

Sample 4

Continue to rinse for at least 10 minutes. Get medical attention.

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.

: Sample 1

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 following exposure or if feeling unwell. 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.

Sample 2

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 following exposure or if feeling unwell. 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.

Sample 3

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 following exposure or if feeling unwell. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen

Section 4. First aid measures

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.

Sample 4

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 following exposure or if feeling unwell. 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

: Sample 1

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 following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Sample 2

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 following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Sample 3

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 following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Sample 4

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 following exposure or if feeling unwell. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

Ingestion

: Sample 1

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Sample 2

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Sample 3

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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.

Sample 4

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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

Section 4. First aid measures

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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Sample 1	Causes serious eye irritation.
	Sample 2	Causes serious eye irritation.
	Sample 3	Causes serious eye irritation.
	Sample 4	Causes serious eye irritation.
Inhalation	: Sample 1	Harmful if inhaled.
	Sample 2	Harmful if inhaled.
	Sample 3	Harmful if inhaled.
	Sample 4	Harmful if inhaled.
Skin contact	: Sample 1	Harmful in contact with skin.
	Sample 2	Harmful in contact with skin.
	Sample 3	Harmful in contact with skin.
	Sample 4	Harmful in contact with skin.
Ingestion	: Sample 1	Harmful if swallowed.
	Sample 2	Harmful if swallowed.
	Sample 3	Harmful if swallowed.
	Sample 4	Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact	: Sample 1	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 2	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 3	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 4	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.
Skin contact	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.
Ingestion	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.

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

Section 4. First aid measures

Notes to physician	: Sample 1	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.
	Sample 2	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.
	Sample 3	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.
	Sample 4	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	: Sample 1	No specific treatment.
	Sample 2	No specific treatment.
	Sample 3	No specific treatment.
	Sample 4	No specific treatment.
Protection of first-aiders	: Sample 1	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.
	Sample 2	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.
	Sample 3	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.
	Sample 4	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

5.1 Extinguishing media

Suitable extinguishing media	: Sample 1	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Sample 2	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Sample 3	Use dry chemical, CO ₂ , water spray (fog) or foam.
	Sample 4	Use dry chemical, CO ₂ , water spray (fog) or foam.
Unsuitable extinguishing media	: Sample 1	Do not use water jet.
	Sample 2	Do not use water jet.
	Sample 3	Do not use water jet.
	Sample 4	Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	: Sample 1	Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
	Sample 2	Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
	Sample 3	Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
	Sample 4	Highly flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
Hazardous thermal decomposition products	: Sample 1	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides cyanides
	Sample 2	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides cyanides
	Sample 3	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides cyanides
	Sample 4	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides cyanides

Section 5. Fire-fighting measures

5.3 Advice for firefighters

Special protective actions for fire-fighters	: Sample 1	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.
	Sample 2	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.
	Sample 3	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.
	Sample 4	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	: Sample 1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Sample 2	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Sample 3	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Sample 4	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

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Sample 1	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.
	Sample 2	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

Section 6. Accidental release measures

Sample 3	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. 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.
Sample 4	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.
For emergency responders : Sample 1	If specialised 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".
Sample 2	If specialised 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".
Sample 3	If specialised 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".
Sample 4	If specialised 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".
6.2 Environmental precautions : Sample 1	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).
Sample 2	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).
Sample 3	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).

Section 6. Accidental release measures

Sample 4

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).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Sample 1

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Sample 2

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Sample 3

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Sample 4

Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures : Sample 1

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Sample 2

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do

Section 7. Handling and storage

not ingest. Avoid contact with eyes, skin and clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Sample 3

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Sample 4

Put on appropriate personal protective equipment (see Section 8). Do not breathe vapor or mist. Do not ingest. Avoid contact with eyes, skin and clothing. 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. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Sample 1

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.

Sample 2

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face

Section 7. Handling and storage

		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. 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.
	Sample 3	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.
	Sample 4	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.
7.2 Conditions for safe storage, including any incompatibilities	: Sample 1	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 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.
	Sample 2	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 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.
	Sample 3	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 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.
	Sample 4	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

Section 7. Handling and storage

incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. 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.

7.3 Specific end use(s)

Recommendations	: Sample 1 Sample 2 Sample 3 Sample 4	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: <input checked="" type="checkbox"/> Sample 1 Sample 2 Sample 3 Sample 4	Not applicable. Not applicable. Not applicable. Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Sample 1 Acetonitrile	ACGIH TLV (United States, 3/2015). Absorbed through skin. TWA: 20 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 40 ppm 8 hours. TWA: 70 mg/m ³ 8 hours. STEL: 60 ppm 15 minutes. STEL: 105 mg/m ³ 15 minutes. NIOSH REL (United States, 10/2013). TWA: 20 ppm 10 hours. TWA: 34 mg/m ³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 40 ppm 8 hours. TWA: 70 mg/m ³ 8 hours.
Sample 2 Acetonitrile	ACGIH TLV (United States, 3/2015). Absorbed through skin. TWA: 20 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 40 ppm 8 hours. TWA: 70 mg/m ³ 8 hours. STEL: 60 ppm 15 minutes. STEL: 105 mg/m ³ 15 minutes. NIOSH REL (United States, 10/2013). TWA: 20 ppm 10 hours. TWA: 34 mg/m ³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 40 ppm 8 hours. TWA: 70 mg/m ³ 8 hours.
Sample 3	

Section 8. Exposure controls/personal protection

Acetonitrile

ACGIH TLV (United States, 3/2015).**Absorbed through skin.**

TWA: 20 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).

TWA: 40 ppm 8 hours.

TWA: 70 mg/m³ 8 hours.

STEL: 60 ppm 15 minutes.

STEL: 105 mg/m³ 15 minutes.**NIOSH REL (United States, 10/2013).**

TWA: 20 ppm 10 hours.

TWA: 34 mg/m³ 10 hours.**OSHA PEL (United States, 2/2013).**

TWA: 40 ppm 8 hours.

TWA: 70 mg/m³ 8 hours.**Sample 4**

Acetonitrile

ACGIH TLV (United States, 3/2015).**Absorbed through skin.**

TWA: 20 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).

TWA: 40 ppm 8 hours.

TWA: 70 mg/m³ 8 hours.

STEL: 60 ppm 15 minutes.

STEL: 105 mg/m³ 15 minutes.**NIOSH REL (United States, 10/2013).**

TWA: 20 ppm 10 hours.

TWA: 34 mg/m³ 10 hours.**OSHA PEL (United States, 2/2013).**

TWA: 40 ppm 8 hours.

TWA: 70 mg/m³ 8 hours.**8.2 Exposure controls****Appropriate engineering controls**

- : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

- : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures**Hygiene measures**

- : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

- : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Sample 1	Liquid.
	Sample 2	Liquid.
	Sample 3	Liquid.
	Sample 4	Liquid.
Color	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Odor	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Odor threshold	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
pH	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Melting point	: Sample 1	-46°C (-50.8°F)
	Sample 2	-46°C (-50.8°F)
	Sample 3	-46°C (-50.8°F)
	Sample 4	-46°C (-50.8°F)
Boiling point	: Sample 1	82°C (179.6°F)
	Sample 2	82°C (179.6°F)
	Sample 3	82°C (179.6°F)
	Sample 4	82°C (179.6°F)
Flash point	: Sample 1	Closed cup: 12.8°C (55°F)
	Sample 2	Closed cup: 12.8°C (55°F)
	Sample 3	Closed cup: 12.8°C (55°F)
	Sample 4	Closed cup: 12.8°C (55°F)

Section 9. Physical and chemical properties

Evaporation rate	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Flammability (solid, gas)	: Sample 1	Not applicable.
	Sample 2	Not applicable.
	Sample 3	Not applicable.
	Sample 4	Not applicable.
Lower and upper explosive (flammable) limits	: Sample 1	Lower: 3% Upper: 16%
	Sample 2	Lower: 3% Upper: 16%
	Sample 3	Lower: 3% Upper: 16%
	Sample 4	Lower: 3% Upper: 16%
Vapor pressure	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Vapor density	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Relative density	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Solubility	: Sample 1	Easily soluble in the following materials: cold water and hot water.
	Sample 2	Easily soluble in the following materials: cold water and hot water.
	Sample 3	Easily soluble in the following materials: cold water and hot water.
	Sample 4	Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Auto-ignition temperature	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Decomposition temperature	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.
Viscosity	: Sample 1	Not available.
	Sample 2	Not available.
	Sample 3	Not available.
	Sample 4	Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: Sample 1 Sample 2 Sample 3 Sample 4	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Sample 1 Sample 2 Sample 3 Sample 4	The product is stable. The product is stable. The product is stable. The product is stable.
10.3 Possibility of hazardous reactions	: Sample 1 Sample 2 Sample 3 Sample 4	Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur. Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Sample 1 Sample 2 Sample 3 Sample 4	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. 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. 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. 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.
10.5 Incompatible materials	: Sample 1 Sample 2 Sample 3 Sample 4	Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials

Section 10. Stability and reactivity

10.6 Hazardous decomposition products	: Sample 1	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Sample 2	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Sample 3	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Sample 4	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Sample 1 Acetonitrile	LC50 Inhalation Vapor LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -
Sample 2 Acetonitrile	LC50 Inhalation Vapor LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -
Sample 3 Acetonitrile	LC50 Inhalation Vapor LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -
Sample 4 Acetonitrile	LC50 Inhalation Vapor LD50 Oral	Rat Rat	17100 ppm 2460 mg/kg	4 hours -

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Sample 1 Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		-
Sample 2 Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		-
Sample 3 Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters 500 milligrams	-
	Skin - Mild irritant	Rabbit	-		-
Sample 4 Acetonitrile	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-

Section 11. Toxicological information

	Skin - Mild irritant	Rabbit	-	500 milligrams	-
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Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Sample 1 Acetonitrile	Category 2	Not determined	blood system, central nervous system (CNS), kidneys and liver
Sample 2 Acetonitrile	Category 2	Not determined	blood system, central nervous system (CNS), kidneys and liver
Sample 3 Acetonitrile	Category 2	Not determined	blood system, central nervous system (CNS), kidneys and liver
Sample 4 Acetonitrile	Category 2	Not determined	blood system, central nervous system (CNS), kidneys and liver

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure	: Sample 1	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Sample 2	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Sample 3	Routes of entry anticipated: Oral, Dermal, Inhalation.
	Sample 4	Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact	: Sample 1	Causes serious eye irritation.
	Sample 2	Causes serious eye irritation.
	Sample 3	Causes serious eye irritation.
	Sample 4	Causes serious eye irritation.
Inhalation	: Sample 1	Harmful if inhaled.
	Sample 2	Harmful if inhaled.
	Sample 3	Harmful if inhaled.
	Sample 4	Harmful if inhaled.
Skin contact	: Sample 1	Harmful in contact with skin.
	Sample 2	Harmful in contact with skin.
	Sample 3	Harmful in contact with skin.
	Sample 4	Harmful in contact with skin.
Ingestion	: Sample 1	Harmful if swallowed.
	Sample 2	Harmful if swallowed.
	Sample 3	Harmful if swallowed.
	Sample 4	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Sample 1	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 2	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 3	Adverse symptoms may include the following: pain or irritation watering redness
	Sample 4	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.
Skin contact	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.
Ingestion	: Sample 1	No specific data.
	Sample 2	No specific data.
	Sample 3	No specific data.
	Sample 4	No specific data.

Section 11. Toxicological information

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	: Sample 1	May cause damage to organs through prolonged or repeated exposure.
	Sample 2	May cause damage to organs through prolonged or repeated exposure.
	Sample 3	May cause damage to organs through prolonged or repeated exposure.
	Sample 4	May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: Sample 1	No known significant effects or critical hazards.
	Sample 2	No known significant effects or critical hazards.
	Sample 3	No known significant effects or critical hazards.
	Sample 4	No known significant effects or critical hazards.
Mutagenicity	: Sample 1	No known significant effects or critical hazards.
	Sample 2	No known significant effects or critical hazards.
	Sample 3	No known significant effects or critical hazards.
	Sample 4	No known significant effects or critical hazards.
Teratogenicity	: Sample 1	No known significant effects or critical hazards.
	Sample 2	No known significant effects or critical hazards.
	Sample 3	No known significant effects or critical hazards.
	Sample 4	No known significant effects or critical hazards.
Developmental effects	: Sample 1	No known significant effects or critical hazards.
	Sample 2	No known significant effects or critical hazards.
	Sample 3	No known significant effects or critical hazards.
	Sample 4	No known significant effects or critical hazards.
Fertility effects	: Sample 1	No known significant effects or critical hazards.
	Sample 2	No known significant effects or critical hazards.
	Sample 3	No known significant effects or critical hazards.
	Sample 4	No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Sample 1	
Oral	503 mg/kg
Dermal	1106.7 mg/kg
Inhalation (vapors)	11.07 mg/l
Sample 2	
Oral	503 mg/kg
Dermal	1106.7 mg/kg
Inhalation (vapors)	11.07 mg/l
Sample 3	
Oral	503 mg/kg

Section 11. Toxicological information

Dermal	1106.7 mg/kg
Inhalation (vapors)	11.07 mg/l
Sample 4	
Oral	503.1 mg/kg
Dermal	1106.8 mg/kg
Inhalation (vapors)	11.07 mg/l

Section 12. Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
Sample 1 Acetonitrile	Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna	96 hours 48 hours 96 hours 96 hours 21 days
Sample 2 Acetonitrile	Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna	96 hours 48 hours 96 hours 96 hours 21 days
Sample 3 Acetonitrile	Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna	96 hours 48 hours 96 hours 96 hours 21 days
Sample 4 Acetonitrile	Acute IC50 3685000 µg/l Fresh water Acute LC50 3600000 µg/l Fresh water Acute LC50 1000000 µg/l Fresh water Chronic NOEC 1000000 µg/l Fresh water Chronic NOEC 160000 µg/l Fresh water	Aquatic plants - Lemna minor Daphnia - Daphnia magna Fish - Pimephales promelas Aquatic plants - Lemna minor Daphnia - Daphnia magna	96 hours 48 hours 96 hours 96 hours 21 days

12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Sample 1 Acetonitrile	-	-	Readily
Sample 2 Acetonitrile	-	-	Readily
Sample 3 Acetonitrile	-	-	Readily
Sample 4 Acetonitrile	-	-	Readily

Section 12. Ecological information

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Sample 1 Acetonitrile	-0.34	-	low
Sample 2 Acetonitrile	-0.34	-	low
Sample 3 Acetonitrile	-0.34	-	low
Sample 4 Acetonitrile	-0.34	-	low

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

United States - RCRA Toxic hazardous waste "U" List

Ingredient	CAS #	Status	Reference number
Sample 1 Acetonitrile (I,T)	75-05-8	Listed	U003
Sample 2 Acetonitrile (I,T)	75-05-8	Listed	U003
Sample 3 Acetonitrile (I,T)	75-05-8	Listed	U003
Sample 4 Acetonitrile (I,T)	75-05-8	Listed	U003



Section 13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.




The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT	UN1648	Acetonitrile solution RQ (Acetonitrile)	3	II		<p>Reportable quantity 5030.2 lbs / 2283.7 kg Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.</p> <p>Limited quantity Yes.</p> <p>Packaging instruction Passenger aircraft Quantity limitation: 5 L</p> <p>Cargo aircraft Quantity limitation: 60 L</p> <p>Special provisions IB2, T7, TP2</p>
TDG	UN1648	ACETONITRILE solution	3	II		<p>Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).</p> <p>Explosive Limit and Limited Quantity Index 1</p> <p>Passenger Carrying Road or Rail Index 5</p>

Section 14. Transport information

Mexico	UN1648	ACETONITRILE solution	3	II		
IMDG	UN1648	ACETONITRILE solution	3	II		Emergency schedules (EmS) F-E, S-D
IATA	UN1648	Acetonitrile solution	3	II		Passenger and Cargo Aircraft Quantity limitation: 5 L Packaging instructions: 353 Cargo Aircraft Only Quantity limitation: 60 L Packaging instructions: 364 Limited Quantities - Passenger Aircraft Quantity limitation: 1 L Packaging instructions: Y341

PG* : Packing group

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : TSCA 8(a) PAIR: Acetonitrile
 United States inventory (TSCA 8b): Not determined.
 Clean Water Act (CWA) 307: Acetonitrile
 Clean Water Act (CWA) 311: Formic acid

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Section 15. Regulatory information

Classification : Fire hazard
 Immediate (acute) health hazard
 Delayed (chronic) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Sample 1 Acetonitrile	≥90	Yes.	No.	No.	Yes.	Yes.
Sample 2 Acetonitrile	≥90	Yes.	No.	No.	Yes.	Yes.
Sample 3 Acetonitrile	≥90	Yes.	No.	No.	Yes.	Yes.
Sample 4 Acetonitrile	≥90	Yes.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	Sample 1 Acetonitrile	75-05-8	≥90
	Sample 2 Acetonitrile	75-05-8	≥90
	Sample 3 Acetonitrile	75-05-8	≥90
	Sample 4 Acetonitrile	75-05-8	≥90
Supplier notification	Sample 1 Acetonitrile	75-05-8	≥90
	Sample 2 Acetonitrile	75-05-8	≥90
	Sample 3 Acetonitrile	75-05-8	≥90
	Sample 4 Acetonitrile	75-05-8	≥90

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: ACETONITRILE
New York : The following components are listed: Acetonitrile; Ethanenitrile
New Jersey : The following components are listed: ACETONITRILE; CYANOMETHANE
Pennsylvania : The following components are listed: ACETONITRILE

California Prop. 65

No products were found.

Section 15. Regulatory information

Canada inventory : Not determined.

International regulations

International lists : **Australia inventory (AICS)**: Not determined.
China inventory (IECSC): Not determined.
Japan inventory: Not determined.
Korea inventory: Not determined.
Malaysia Inventory (EHS Register): Not determined.
New Zealand Inventory of Chemicals (NZIoC): Not determined.
Philippines inventory (PICCS): Not determined.
Taiwan inventory (CSNN): Not determined.

Chemical Weapons : Not listed

Convention List Schedule I Chemicals

Chemical Weapons : Not listed

Convention List Schedule II Chemicals

Chemical Weapons : Not listed

Convention List Schedule III Chemicals

Section 16. Other information

History

Date of issue : 2015-12-03

Date of previous issue : 2014-02-27

Version : 3

✔ Indicates information that has changed from previously issued version.

Notice to reader

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