

Section 2. Hazards identification

OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Mix 1

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H304 ASPIRATION HAZARD - Category 1

Mix 2

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H304 ASPIRATION HAZARD - Category 1

Mix 3

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H304 ASPIRATION HAZARD - Category 1

Mix 4

H225 FLAMMABLE LIQUIDS - Category 2
 H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H304 ASPIRATION HAZARD - Category 1

Mix 5

H225 FLAMMABLE LIQUIDS - Category 2
 H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
 H360 TOXIC TO REPRODUCTION (Fertility) - Category 1B
 H360 TOXIC TO REPRODUCTION (Unborn child) - Category 1B
 H335 and H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3
 H373 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
 H304 ASPIRATION HAZARD - Category 1

Mix 6

H225 FLAMMABLE LIQUIDS - Category 2
 H332 ACUTE TOXICITY (inhalation) - Category 4

Section 2. Hazards identification

| | |
|--|--|
| H315 | SKIN CORROSION/IRRITATION - Category 2 |
| H319 | SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A |
| H335 and H336 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation and Narcotic effects) - Category 3 |
| H304 | ASPIRATION HAZARD - Category 1 |
| Ingredients of unknown toxicity | : Mix 1 Not applicable. Mix 2 Not applicable. Mix 3 Not applicable. Mix 4 Not applicable. Mix 5 Not applicable. Mix 6 Percentage of the mixture consisting of ingredient (s) of unknown toxicity: 51.7% |

2.2 GHS label elements

Hazard pictograms



Signal word

| | |
|---------|--------|
| : Mix 1 | Danger |
| Mix 2 | Danger |
| Mix 3 | Danger |
| Mix 4 | Danger |
| Mix 5 | Danger |
| Mix 6 | Danger |

Hazard statements

| | |
|---------|---|
| : Mix 1 | H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H360 - May damage fertility or the unborn child. H304 - May be fatal if swallowed and enters airways. |
| Mix 2 | H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H360 - May damage fertility or the unborn child. H304 - May be fatal if swallowed and enters airways. |
| Mix 3 | H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H360 - May damage fertility or the unborn child. H304 - May be fatal if swallowed and enters airways. |
| Mix 4 | H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. |

Section 2. Hazards identification

| | |
|-------|---|
| Mix 5 | <p>H360 - May damage fertility or the unborn child. H304 - May be fatal if swallowed and enters airways. H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure. H225 - Highly flammable liquid and vapor. H319 - Causes serious eye irritation. H360 - May damage fertility or the unborn child. H304 - May be fatal if swallowed and enters airways. H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness. H373 - May cause damage to organs through prolonged or repeated exposure.</p> |
| Mix 6 | <p>H225 - Highly flammable liquid and vapor. H332 - Harmful if inhaled. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H304 - May be fatal if swallowed and enters airways. H335 - May cause respiratory irritation. H336 - May cause drowsiness and dizziness.</p> |

Precautionary statements

General

| | |
|---------|-----------------|
| : Mix 1 | Not applicable. |
| Mix 2 | Not applicable. |
| Mix 3 | Not applicable. |
| Mix 4 | Not applicable. |
| Mix 5 | Not applicable. |
| Mix 6 | Not applicable. |

Prevention

| | |
|---------|---|
| : Mix 1 | <p>P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open flames and hot surfaces. - 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. P264 - Wash hands thoroughly after handling.</p> |
| Mix 2 | <p>P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open</p> |

Section 2. Hazards identification

| | |
|-------|--|
| | <p>flames and hot surfaces. - 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. P264 - Wash hands thoroughly after handling. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open flames and hot surfaces. - 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. P264 - Wash hands thoroughly after handling. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open flames and hot surfaces. - 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. P264 - Wash hands thoroughly after handling. P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P281 - Use personal protective equipment as required. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open flames and hot surfaces. - No smoking. P241 - Use explosion-proof electrical, ventilating,</p> |
| Mix 3 | |
| Mix 4 | |
| Mix 5 | |

Section 2. Hazards identification

| | | |
|------------------------|----------------|---|
| | <p>Mix 6</p> | <p>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. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, sparks, open flames and hot surfaces. - 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. P261 - Avoid breathing vapor. P264 - Wash hands thoroughly after handling.</p> |
| <p>Response</p> | <p>: Mix 1</p> | <p>P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical 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 attention.</p> |
| | <p>Mix 2</p> | <p>P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse</p> |

Section 2. Hazards identification

Mix 3

skin with water or shower.
 P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.
 P332 + P313 - If skin irritation occurs: Get medical 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 attention.
 P314 - Get medical attention if you feel unwell.
 P308 + P313 - IF exposed or concerned: Get medical attention.
 P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
 P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing.
 P332 + P313 - If skin irritation occurs: Get medical 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 attention.
 P314 - Get medical attention if you feel unwell.
 P308 + P313 - IF exposed or concerned: Get medical attention.
 P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
 P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 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.
 P308 + P313 - IF exposed or concerned: Get medical attention.
 P304 + P340 + P312 - IF INHALED: Remove

Mix 4

Mix 5

Section 2. Hazards identification

| | | |
|----------------|---------|--|
| | | <p>victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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. P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P362-2 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical 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 attention.</p> |
| | Mix 6 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| Storage | : Mix 1 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| | Mix 2 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| | Mix 3 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| | Mix 4 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| | Mix 5 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |
| | Mix 6 | <p>P405 - Store locked up. P403 - Store in a well-ventilated place. P235 - Keep cool.</p> |

Section 2. Hazards identification

| | | | |
|---|---|-------|--|
| Disposal | : | Mix 1 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | | Mix 2 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | | Mix 3 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | | Mix 4 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | | Mix 5 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| | | Mix 6 | P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. |
| Supplemental label elements | : | Mix 1 | Avoid contact with skin and clothing. Wash thoroughly after handling. |
| | | Mix 2 | Avoid contact with skin and clothing. Wash thoroughly after handling. |
| | | Mix 3 | Avoid contact with skin and clothing. Wash thoroughly after handling. |
| | | Mix 4 | Avoid contact with skin and clothing. Wash thoroughly after handling. |
| | | Mix 5 | None known. |
| | | Mix 6 | Avoid contact with skin and clothing. Wash thoroughly after handling. |
| 2.3 Other hazards | | | |
| Hazards not otherwise classified | : | Mix 1 | Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation. |
| | | Mix 2 | Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation. |
| | | Mix 3 | Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation. |
| | | Mix 4 | Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation. |
| | | Mix 5 | Defatting to the skin. |
| | | Mix 6 | Defatting to the skin. Prolonged or repeated contact may dry skin and cause irritation. |

Section 3. Composition/information on ingredients

| | | | |
|--------------------------|---|-------|---------|
| Substance/mixture | : | Mix 1 | Mixture |
| | | Mix 2 | Mixture |
| | | Mix 3 | Mixture |
| | | Mix 4 | Mixture |
| | | Mix 5 | Mixture |
| | | Mix 6 | Mixture |

Section 3. Composition/information on ingredients

| Ingredient name | % | CAS number |
|------------------------|----------|------------|
| Mix 1 | | |
| 2,2,4-trimethylpentane | 60 - 100 | 540-84-1 |
| Ethanol | 10 - 30 | 64-17-5 |
| Heptane | 5 - 10 | 142-82-5 |
| Methanol | 0.1 - 1 | 67-56-1 |
| Mix 2 | | |
| Ethanol | 30 - 60 | 64-17-5 |
| 2,2,4-trimethylpentane | 30 - 60 | 540-84-1 |
| Heptane | 5 - 10 | 142-82-5 |
| Methanol | 0.1 - 1 | 67-56-1 |
| Mix 3 | | |
| Ethanol | 60 - 100 | 64-17-5 |
| 2,2,4-trimethylpentane | 10 - 30 | 540-84-1 |
| Heptane | 5 - 10 | 142-82-5 |
| Methanol | 0.1 - 1 | 67-56-1 |
| Mix 4 | | |
| Ethanol | 60 - 100 | 64-17-5 |
| 2,2,4-trimethylpentane | 5 - 10 | 540-84-1 |
| Heptane | 1 - 5 | 142-82-5 |
| Methanol | 0.1 - 1 | 67-56-1 |
| Mix 5 | | |
| Ethanol | 60 - 100 | 64-17-5 |
| Methanol | < 0.1 | 67-56-1 |
| Mix 6 | | |
| Decane | 10 - 30 | 124-18-5 |
| Heptane | 10 - 30 | 142-82-5 |
| Octane | 10 - 30 | 111-65-9 |
| Undecane | 10 - 30 | 1120-21-4 |
| 3-Methylhexane | 10 - 30 | 589-34-4 |
| Nonane | 5 - 10 | 111-84-2 |
| 2,2-Dimethylbutane | 5 - 10 | 75-83-2 |
| 2,2,4-trimethylpentane | 5 - 10 | 540-84-1 |
| 2,4-Dimethylpentane | 5 - 10 | 108-08-7 |
| Pentane | 5 - 10 | 109-66-0 |

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

: Mix 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.

Mix 2

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

| | | |
|-------------------|---------|---|
| | Mix 3 | 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. |
| | Mix 4 | 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. |
| | Mix 5 | 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. |
| | Mix 6 | 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. |
| Inhalation | : Mix 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. 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. |
| | Mix 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. 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. |
| | Mix 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 |

Section 4. First aid measures

| | |
|-------|--|
| | <p>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.</p> |
| Mix 4 | <p>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.</p> |
| Mix 5 | <p>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.</p> |
| Mix 6 | <p>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.</p> |

Section 4. First aid measures

| | | |
|---------------------|---------|--|
| Skin contact | : Mix 1 | Wash skin thoroughly with soap and water or use recognized skin cleanser. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Mix 2 | Wash skin thoroughly with soap and water or use recognized skin cleanser. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Mix 3 | Wash skin thoroughly with soap and water or use recognized skin cleanser. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Mix 4 | Wash skin thoroughly with soap and water or use recognized skin cleanser. 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Mix 5 | Flush contaminated skin with plenty of 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. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| | Mix 6 | Wash skin thoroughly with soap and water or use recognized skin cleanser. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Ingestion | : Mix 1 | Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. |
| | Mix 2 | Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh |

Section 4. First aid measures

Mix 3

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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Mix 4

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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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. Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Mix 5

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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention

Section 4. First aid measures

Mix 6

immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately. Call a poison center or physician. 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. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. 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.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact

: Mix 1
Mix 2
Mix 3
Mix 4
Mix 5
Mix 6

Causes serious eye irritation.
Causes serious eye irritation.

Inhalation

: Mix 1

Mix 2

Mix 3

Mix 4

Mix 5

Mix 6

Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.
Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation.

Skin contact

: Mix 1
Mix 2
Mix 3
Mix 4

Mix 5
Mix 6

Causes skin irritation. Defatting to the skin.
Causes skin irritation. Defatting to the skin.
Causes skin irritation. Defatting to the skin.
Defatting to the skin. May cause skin dryness and irritation.

No known significant effects or critical hazards.
Causes skin irritation. Defatting to the skin.

Section 4. First aid measures

| | | |
|------------------|---------|---|
| Ingestion | : Mix 1 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 2 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 3 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 4 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 5 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 6 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |

Over-exposure signs/symptoms

| | | |
|--------------------|---------|---|
| Eye contact | : Mix 1 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 2 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 3 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 4 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 5 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 6 | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | : Mix 1 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 2 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting |

Section 4. First aid measures

| | | |
|---------------------|---------|---|
| | | headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 3 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 4 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 5 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 6 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| Skin contact | : Mix 1 | Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 2 | Adverse symptoms may include the following: irritation redness |

Section 4. First aid measures

| | | |
|------------------|---------|---|
| | | dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: irritation redness dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: irritation dryness cracking reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: irritation redness dryness cracking |
| | Mix 3 | |
| | Mix 4 | |
| | Mix 5 | |
| | Mix 6 | |
| Ingestion | : Mix 1 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations Adverse symptoms may include the following: nausea or vomiting |
| | Mix 2 | |
| | Mix 3 | |
| | Mix 4 | |
| | Mix 5 | |
| | Mix 6 | |

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

Section 4. First aid measures

| | | |
|-----------------------------------|---------|---|
| Notes to physician | : Mix 1 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Mix 2 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Mix 3 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Mix 4 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Mix 5 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | Mix 6 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : Mix 1 | No specific treatment. |
| | Mix 2 | No specific treatment. |
| | Mix 3 | No specific treatment. |
| | Mix 4 | No specific treatment. |
| | Mix 5 | No specific treatment. |
| | Mix 6 | No specific treatment. |
| Protection of first-aiders | : Mix 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. |
| | Mix 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. |
| | Mix 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. |
| | Mix 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. |
| | Mix 5 | 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 |

Section 4. First aid measures

Mix 6

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.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

: Mix 1
Mix 2
Mix 3
Mix 4
Mix 5
Mix 6

Use dry chemical, CO₂, water spray (fog) or foam.
Use dry chemical, CO₂, water spray (fog) or foam.
Use dry chemical, CO₂, water spray (fog) or foam.
Use dry chemical, CO₂, water spray (fog) or foam.
Use dry chemical, CO₂, water spray (fog) or foam.
Use dry chemical, CO₂, water spray (fog) or foam.

Unsuitable extinguishing media

: Mix 1
Mix 2
Mix 3
Mix 4
Mix 5
Mix 6

Do not use water jet.
Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Specific hazards arising from the chemical

: Mix 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Mix 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Mix 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or

Section 5. Fire-fighting measures

| | |
|-------|--|
| Mix 4 | explosion hazard. 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. |
| Mix 5 | 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. |
| Mix 6 | 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. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard. |

Hazardous thermal decomposition products

: Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

5.3 Advice for firefighters

Special protective actions for fire-fighters

| | |
|---------|--|
| : Mix 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. |
| Mix 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. |
| Mix 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. |
| Mix 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. |
| Mix 5 | Promptly isolate the scene by removing all persons |

Section 5. Fire-fighting measures

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.

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.

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.

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.

Special protective equipment for fire-fighters : Mix 1

Mix 6

Mix 2

Mix 3

Mix 4

Mix 5

Mix 6

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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 : 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 : Mix 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).

Mix 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,

Section 6. Accidental release measures

| | |
|-------|---|
| Mix 3 | waterways, soil or air). 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). |
| Mix 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). |
| Mix 5 | 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). |
| Mix 6 | 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

| | |
|-------|--|
| Mix 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. |
| Mix 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. |
| Mix 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. |
| Mix 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. |
| Mix 5 | 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. |
| Mix 6 | 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 : Mix 1

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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.

Mix 2

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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.

Mix 3

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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

Section 7. Handling and storage

Mix 4

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.

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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.

Mix 5

Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not swallow. 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.

Mix 6

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. 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

Section 7. Handling and storage

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 | : 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 | : Mix 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. Store locked up. 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. |
| | Mix 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. Store locked up. 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. |
| | Mix 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. Store locked up. 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. |
| | Mix 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 incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition |

Section 7. Handling and storage

Mix 5

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.

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 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.

Mix 6

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 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 | : | Mix 1 | Industrial applications, Professional applications. |
| | | Mix 2 | Industrial applications, Professional applications. |
| | | Mix 3 | Industrial applications, Professional applications. |
| | | Mix 4 | Industrial applications, Professional applications. |
| | | Mix 5 | Industrial applications, Professional applications. |
| | | Mix 6 | Industrial applications, Professional applications. |

Industrial sector specific solutions : Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Section 8. Exposure controls/personal protection

| | |
|---------------------------------|--|
| Ethanol | <p>ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2013). TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours.</p> |
| 2,2,4-trimethylpentane | <p>ACGIH TLV (United States, 6/2013). TWA: 300 ppm 8 hours.</p> |
| Heptane | <p>ACGIH TLV (United States, 6/2013). STEL: 2050 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 1640 mg/m³ 8 hours. TWA: 400 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2013). CEIL: 1800 mg/m³ 15 minutes. CEIL: 440 ppm 15 minutes. TWA: 350 mg/m³ 10 hours. TWA: 85 ppm 10 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 2000 mg/m³ 8 hours. TWA: 500 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). STEL: 2000 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 1600 mg/m³ 8 hours. TWA: 400 ppm 8 hours.</p> |
| Methanol | <p>ACGIH TLV (United States, 6/2013). Absorbed through skin. STEL: 328 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p> <p>NIOSH REL (United States, 10/2013). Absorbed through skin. STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 10 hours. TWA: 200 ppm 10 hours.</p> <p>OSHA PEL (United States, 2/2013). TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p> |
| <p>Mix 3 Ethanol</p> | <p>ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989).</p> |

Section 8. Exposure controls/personal protection

2,2,4-trimethylpentane

Heptane

Methanol

Mix 4
Ethanol

TWA: 1000 ppm 8 hours.
TWA: 1900 mg/m³ 8 hours.
NIOSH REL (United States, 10/2013).
TWA: 1000 ppm 10 hours.
TWA: 1900 mg/m³ 10 hours.
OSHA PEL (United States, 2/2013).
TWA: 1000 ppm 8 hours.
TWA: 1900 mg/m³ 8 hours.

ACGIH TLV (United States, 6/2013).
TWA: 300 ppm 8 hours.

ACGIH TLV (United States, 6/2013).
STEL: 2050 mg/m³ 15 minutes.
STEL: 500 ppm 15 minutes.
TWA: 1640 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

NIOSH REL (United States, 10/2013).
CEIL: 1800 mg/m³ 15 minutes.
CEIL: 440 ppm 15 minutes.
TWA: 350 mg/m³ 10 hours.
TWA: 85 ppm 10 hours.

OSHA PEL (United States, 2/2013).
TWA: 2000 mg/m³ 8 hours.
TWA: 500 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).
STEL: 2000 mg/m³ 15 minutes.
STEL: 500 ppm 15 minutes.
TWA: 1600 mg/m³ 8 hours.
TWA: 400 ppm 8 hours.

ACGIH TLV (United States, 6/2013).

Absorbed through skin.
STEL: 328 mg/m³ 15 minutes.
STEL: 250 ppm 15 minutes.
TWA: 262 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.

NIOSH REL (United States, 10/2013).

Absorbed through skin.
STEL: 325 mg/m³ 15 minutes.
STEL: 250 ppm 15 minutes.
TWA: 260 mg/m³ 10 hours.
TWA: 200 ppm 10 hours.

OSHA PEL (United States, 2/2013).
TWA: 260 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.

OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
STEL: 325 mg/m³ 15 minutes.
STEL: 250 ppm 15 minutes.
TWA: 260 mg/m³ 8 hours.
TWA: 200 ppm 8 hours.

ACGIH TLV (United States, 6/2013).

STEL: 1000 ppm 15 minutes.
OSHA PEL 1989 (United States, 3/1989).
TWA: 1000 ppm 8 hours.
TWA: 1900 mg/m³ 8 hours.
NIOSH REL (United States, 10/2013).

Section 8. Exposure controls/personal protection

| | |
|--|---|
| <p>2,2,4-trimethylpentane</p> <p>Heptane</p> | <p>TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. OSHA PEL (United States, 2/2013). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. ACGIH TLV (United States, 6/2013). TWA: 300 ppm 8 hours. ACGIH TLV (United States, 6/2013). STEL: 2050 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 1640 mg/m³ 8 hours. TWA: 400 ppm 8 hours. NIOSH REL (United States, 10/2013). CEIL: 1800 mg/m³ 15 minutes. CEIL: 440 ppm 15 minutes. TWA: 350 mg/m³ 10 hours. TWA: 85 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 2000 mg/m³ 8 hours. TWA: 500 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 2000 mg/m³ 15 minutes. STEL: 500 ppm 15 minutes. TWA: 1600 mg/m³ 8 hours. TWA: 400 ppm 8 hours.</p> |
| <p>Methanol</p> | <p>ACGIH TLV (United States, 6/2013). Absorbed through skin. STEL: 328 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 262 mg/m³ 8 hours. TWA: 200 ppm 8 hours. NIOSH REL (United States, 10/2013). Absorbed through skin. STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 10 hours. TWA: 200 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. STEL: 325 mg/m³ 15 minutes. STEL: 250 ppm 15 minutes. TWA: 260 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p> |
| <p>Mix 5 Ethanol</p> | <p>ACGIH TLV (United States, 6/2013). STEL: 1000 ppm 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 1000 ppm 8 hours. TWA: 1900 mg/m³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 1000 ppm 10 hours. TWA: 1900 mg/m³ 10 hours. OSHA PEL (United States, 2/2013).</p> |

Section 8. Exposure controls/personal protection

Methanol

TWA: 1000 ppm 8 hours.
 TWA: 1900 mg/m³ 8 hours.
ACGIH TLV (United States, 6/2013).
Absorbed through skin.
 STEL: 328 mg/m³ 15 minutes.
 STEL: 250 ppm 15 minutes.
 TWA: 262 mg/m³ 8 hours.
 TWA: 200 ppm 8 hours.
NIOSH REL (United States, 10/2013).
Absorbed through skin.
 STEL: 325 mg/m³ 15 minutes.
 STEL: 250 ppm 15 minutes.
 TWA: 260 mg/m³ 10 hours.
 TWA: 200 ppm 10 hours.
OSHA PEL (United States, 2/2013).
 TWA: 260 mg/m³ 8 hours.
 TWA: 200 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
Absorbed through skin.
 STEL: 325 mg/m³ 15 minutes.
 STEL: 250 ppm 15 minutes.
 TWA: 260 mg/m³ 8 hours.
 TWA: 200 ppm 8 hours.

Mix 6
 Heptane

ACGIH TLV (United States, 6/2013).
 STEL: 2050 mg/m³ 15 minutes.
 STEL: 500 ppm 15 minutes.
 TWA: 1640 mg/m³ 8 hours.
 TWA: 400 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 CEIL: 1800 mg/m³ 15 minutes.
 CEIL: 440 ppm 15 minutes.
 TWA: 350 mg/m³ 10 hours.
 TWA: 85 ppm 10 hours.
OSHA PEL (United States, 2/2013).
 TWA: 2000 mg/m³ 8 hours.
 TWA: 500 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
 STEL: 2000 mg/m³ 15 minutes.
 STEL: 500 ppm 15 minutes.
 TWA: 1600 mg/m³ 8 hours.
 TWA: 400 ppm 8 hours.

Octane

ACGIH TLV (United States, 6/2013).
 TWA: 300 ppm 8 hours.
NIOSH REL (United States, 10/2013).
 CEIL: 1800 mg/m³ 15 minutes.
 CEIL: 385 ppm 15 minutes.
 TWA: 350 mg/m³ 10 hours.
 TWA: 75 ppm 10 hours.
OSHA PEL (United States, 2/2013).
 TWA: 2350 mg/m³ 8 hours.
 TWA: 500 ppm 8 hours.
OSHA PEL 1989 (United States, 3/1989).
 STEL: 1800 mg/m³ 15 minutes.
 STEL: 375 ppm 15 minutes.
 TWA: 1450 mg/m³ 8 hours.

Section 8. Exposure controls/personal protection

| | |
|------------------------|--|
| 3-Methylhexane | <p>TWA: 300 ppm 8 hours. ACGIH TLV (United States, 6/2013). TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes.</p> |
| Nonane | <p>ACGIH TLV (United States, 6/2013). TWA: 200 ppm 8 hours. TWA: 1050 mg/m³ 8 hours. NIOSH REL (United States, 10/2013). TWA: 1050 mg/m³ 10 hours. TWA: 200 ppm 10 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 1050 mg/m³ 8 hours. TWA: 200 ppm 8 hours.</p> |
| 2,2-Dimethylbutane | <p>ACGIH TLV (United States, 6/2013). TWA: 500 ppm 8 hours. TWA: 1760 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3500 mg/m³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 500 ppm 8 hours. TWA: 1800 mg/m³ 8 hours. STEL: 1000 ppm 15 minutes. STEL: 3600 mg/m³ 15 minutes. NIOSH REL (United States, 10/2013). TWA: 100 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 510 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.</p> |
| 2,2,4-trimethylpentane | <p>ACGIH TLV (United States, 6/2013). TWA: 300 ppm 8 hours.</p> |
| 2,4-Dimethylpentane | <p>ACGIH TLV (United States, 6/2013). TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes.</p> |
| Pentane | <p>ACGIH TLV (United States, 6/2013). TWA: 600 ppm 8 hours. NIOSH REL (United States, 10/2013). CEIL: 1800 mg/m³ 15 minutes. CEIL: 610 ppm 15 minutes. TWA: 350 mg/m³ 10 hours. TWA: 120 ppm 10 hours. OSHA PEL (United States, 2/2013). TWA: 2950 mg/m³ 8 hours. TWA: 1000 ppm 8 hours. OSHA PEL 1989 (United States, 3/1989). STEL: 2250 mg/m³ 15 minutes. STEL: 750 ppm 15 minutes. TWA: 1800 mg/m³ 8 hours. TWA: 600 ppm 8 hours.</p> |

8.2 Exposure controls

Section 8. Exposure controls/personal protection

- 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**
- 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 | : | Mix 1 | Liquid. [Clear.] |
| | | Mix 2 | Liquid. [Clear.] |
| | | Mix 3 | Liquid. [Clear.] |
| | | Mix 4 | Liquid. [Clear.] |
| | | Mix 5 | Liquid. [Clear.] |
| | | Mix 6 | Liquid. |

Section 9. Physical and chemical properties

| | | |
|----------------------------------|---------|---------------------------------|
| Color | : Mix 1 | Colorless. |
| | Mix 2 | Colorless. |
| | Mix 3 | Colorless. |
| | Mix 4 | Colorless. |
| | Mix 5 | Colorless. |
| | Mix 6 | Colorless. |
| Odor | : Mix 1 | Sweetish. Ethereal. Unpleasant. |
| | Mix 2 | Sweetish. Ethereal. Unpleasant. |
| | Mix 3 | Sweetish. Ethereal. Unpleasant. |
| | Mix 4 | Sweetish. Ethereal. Unpleasant. |
| | Mix 5 | Sweetish. Ethereal. Unpleasant. |
| | Mix 6 | Gasoline-like |
| Odor threshold | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |
| pH | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |
| Melting point | : Mix 1 | -114°C (-173.2°F) |
| | Mix 2 | -114°C (-173.2°F) |
| | Mix 3 | -114°C (-173.2°F) |
| | Mix 4 | -114°C (-173.2°F) |
| | Mix 5 | -114°C (-173.2°F) |
| | Mix 6 | -114°C (-173.2°F) |
| Boiling point | : Mix 1 | 78.3°C (172.9°F) |
| | Mix 2 | 78.3°C (172.9°F) |
| | Mix 3 | 78.3°C (172.9°F) |
| | Mix 4 | 78.3°C (172.9°F) |
| | Mix 5 | 78.3°C (172.9°F) |
| | Mix 6 | 98°C (208.4°F) |
| Flash point | : Mix 1 | Closed cup: 14°C (57.2°F) |
| | Mix 2 | Closed cup: 14°C (57.2°F) |
| | Mix 3 | Closed cup: 14°C (57.2°F) |
| | Mix 4 | Closed cup: 14°C (57.2°F) |
| | Mix 5 | Closed cup: 14°C (57.2°F) |
| | Mix 6 | Closed cup: -4°C (24.8°F) |
| Evaporation rate | : Mix 1 | 2.4 (butyl acetate = 1) |
| | Mix 2 | 2.4 (butyl acetate = 1) |
| | Mix 3 | 2.4 (butyl acetate = 1) |
| | Mix 4 | 2.4 (butyl acetate = 1) |
| | Mix 5 | 2.4 (butyl acetate = 1) |
| | Mix 6 | Not available. |
| Flammability (solid, gas) | : Mix 1 | Not applicable. |
| | Mix 2 | Not applicable. |
| | Mix 3 | Not applicable. |
| | Mix 4 | Not applicable. |
| | Mix 5 | Not applicable. |
| | Mix 6 | Not applicable. |

Section 9. Physical and chemical properties

| | | |
|---|------------------|---|
| Lower and upper explosive (flammable) limits | : Mix 1 | Lower: 3.3% Upper: 19% |
| | Mix 2 | Lower: 3.3% Upper: 19% |
| | Mix 3 | Lower: 3.3% Upper: 19% |
| | Mix 4 | Lower: 3.3% Upper: 19% |
| | Mix 5 | Lower: 3.3% Upper: 19% |
| | Mix 6 | Lower: 1.05% Upper: 6.7% |
| Vapor pressure | : Mix 1 | 5.9 kPa (44.25 mm Hg) [room temperature] |
| | Mix 2 | 5.9 kPa (44.25 mm Hg) [room temperature] |
| | Mix 3 | 5.9 kPa (44.25 mm Hg) [room temperature] |
| | Mix 4 | 5.9 kPa (44.25 mm Hg) [room temperature] |
| | Mix 5 | 5.9 kPa (44.25 mm Hg) [room temperature] |
| | Mix 6 | <5.3 kPa (<40 mm Hg) [room temperature] |
| Vapor density | : Mix 1 | 1.59 [Air = 1] |
| | Mix 2 | 1.59 [Air = 1] |
| | Mix 3 | 1.59 [Air = 1] |
| | Mix 4 | 1.59 [Air = 1] |
| | Mix 5 | 1.59 [Air = 1] |
| | Mix 6 | 3.52 [Air = 1] |
| Relative density | : Mix 1 | 0.789 [Water = 1] |
| | Mix 2 | 0.789 [Water = 1] |
| | Mix 3 | 0.789 [Water = 1] |
| | Mix 4 | 0.789 [Water = 1] |
| | Mix 5 | 0.789 [Water = 1] |
| | Mix 6 | 0.684 [Water = 1] |
| Solubility | : Mix 1 | Soluble in the following materials: cold water and hot water. |
| | Mix 2 | Soluble in the following materials: cold water and hot water. |
| | Mix 3 | Soluble in the following materials: cold water and hot water. |
| | Mix 4 | Soluble in the following materials: cold water and hot water. |
| | Mix 5 | Soluble in the following materials: cold water and hot water. |
| | Mix 6 | Insoluble in the following materials: cold water and hot water. |
| Solubility in water | : Not available. | |
| Partition coefficient: n-octanol/water | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |
| Auto-ignition temperature | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |

Section 9. Physical and chemical properties

| | | |
|----------------------------------|---------|----------------|
| Decomposition temperature | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |
| Viscosity | : Mix 1 | Not available. |
| | Mix 2 | Not available. |
| | Mix 3 | Not available. |
| | Mix 4 | Not available. |
| | Mix 5 | Not available. |
| | Mix 6 | Not available. |

Section 10. Stability and reactivity

| | | |
|--|---------|--|
| 10.1 Reactivity | : Mix 1 | No specific test data related to reactivity available for this product or its ingredients. |
| | Mix 2 | No specific test data related to reactivity available for this product or its ingredients. |
| | Mix 3 | No specific test data related to reactivity available for this product or its ingredients. |
| | Mix 4 | No specific test data related to reactivity available for this product or its ingredients. |
| | Mix 5 | No specific test data related to reactivity available for this product or its ingredients. |
| | Mix 6 | No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | : Mix 1 | The product is stable. |
| | Mix 2 | The product is stable. |
| | Mix 3 | The product is stable. |
| | Mix 4 | The product is stable. |
| | Mix 5 | The product is stable. |
| | Mix 6 | The product is stable. |
| 10.3 Possibility of hazardous reactions | : Mix 1 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Mix 2 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Mix 3 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Mix 4 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Mix 5 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | Mix 6 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | : Mix 1 | 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. Do not allow vapor to accumulate in low or confined areas. |
| | Mix 2 | 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. Do not allow vapor to accumulate in low or confined areas. |

Section 10. Stability and reactivity

| | | |
|--|---------|--|
| | Mix 3 | 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. Do not allow vapor to accumulate in low or confined areas. |
| | Mix 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. Do not allow vapor to accumulate in low or confined areas. |
| | Mix 5 | 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. Do not allow vapor to accumulate in low or confined areas. |
| | Mix 6 | 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. Do not allow vapor to accumulate in low or confined areas. |
| 10.5 Incompatible materials | : Mix 1 | Reactive or incompatible with the following materials: oxidizing materials |
| | Mix 2 | Reactive or incompatible with the following materials: oxidizing materials |
| | Mix 3 | Reactive or incompatible with the following materials: oxidizing materials |
| | Mix 4 | Reactive or incompatible with the following materials: oxidizing materials |
| | Mix 5 | Reactive or incompatible with the following materials: oxidizing materials |
| | Mix 6 | Reactive or incompatible with the following materials: oxidizing materials |
| 10.6 Hazardous decomposition products | : Mix 1 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Mix 2 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Mix 3 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Mix 4 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Mix 5 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | Mix 6 | 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 |
|-------------------------|---------------------------------|---------|--------------------------|----------|
| Mix 1 | | | | |
| 2,2,4-trimethylpentane | LC50 Inhalation Dusts and mists | Rat | 47.4 mg/l | 1 hours |
| | LD50 Oral | Rat | >2500 mg/kg | - |
| Ethanol | LC50 Inhalation Dusts and mists | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| Heptane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Mix 2 | | | | |
| Ethanol | LC50 Inhalation Dusts and mists | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| 2,2,4-trimethylpentane | LC50 Inhalation Dusts and mists | Rat | 47.4 mg/l | 1 hours |
| | LD50 Oral | Rat | >2500 mg/kg | - |
| Heptane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Mix 3 | | | | |
| Ethanol | LC50 Inhalation Dusts and mists | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| 2,2,4-trimethylpentane | LC50 Inhalation Dusts and mists | Rat | 47.4 mg/l | 1 hours |
| | LD50 Oral | Rat | >2500 mg/kg | - |
| Heptane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Mix 4 | | | | |
| Ethanol | LC50 Inhalation Dusts and mists | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| 2,2,4-trimethylpentane | LC50 Inhalation Dusts and mists | Rat | 47.4 mg/l | 1 hours |
| | LD50 Oral | Rat | >2500 mg/kg | - |
| Heptane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |
| | LD50 Oral | Rat | 5600 mg/kg | - |
| Mix 5 | | | | |
| Ethanol | LC50 Inhalation Dusts and mists | Rat | 124700 mg/m ³ | 4 hours |
| | LD50 Oral | Rat | 7 g/kg | - |
| Methanol | LC50 Inhalation Vapor | Rat | 145000 ppm | 1 hours |
| | LC50 Inhalation Vapor | Rat | 64000 ppm | 4 hours |
| | LD50 Dermal | Rabbit | 15800 mg/kg | - |

Section 11. Toxicological information

| | | | | |
|------------------------|---------------------------------|-----|-------------------------|---------|
| Mix 6 | LD50 Oral | Rat | 5600 mg/kg | - |
| Heptane | LC50 Inhalation Gas. | Rat | 48000 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| Octane | LC50 Inhalation Dusts and mists | Rat | 118 g/m ³ | 4 hours |
| | LC50 Inhalation Vapor | Rat | 25260 ppm | 4 hours |
| Nonane | LC50 Inhalation Gas. | Rat | 3200 ppm | 4 hours |
| | LC50 Inhalation Vapor | Rat | 17000 mg/m ³ | 4 hours |
| 2,2,4-trimethylpentane | LC50 Inhalation Dusts and mists | Rat | 47.4 mg/l | 1 hours |
| | LD50 Oral | Rat | >2500 mg/kg | - |
| Pentane | LC50 Inhalation Vapor | Rat | 364 g/m ³ | 4 hours |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|--------------------------|---------|-------|-----------------------------------|-------------|
| Mix 1 | | | | | |
| Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.06666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Mix 2 | | | | | |
| Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.06666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Mix 3 | | | | | |
| Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.06666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |

Section 11. Toxicological information

| | | | | | |
|--------------|--------------------------|--------|---|------------------------------------|---|
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Mix 4 | | | | | |
| Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.066666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Mix 5 | | | | | |
| Ethanol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 0.066666667 minutes 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 100 microliters | - |
| | Skin - Mild irritant | Rabbit | - | 400 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Methanol | Eyes - Moderate irritant | Rabbit | - | 24 hours 100 milligrams | - |
| | Eyes - Moderate irritant | Rabbit | - | 40 milligrams | - |
| | Skin - Moderate irritant | Rabbit | - | 24 hours 20 milligrams | - |
| Mix 6 | | | | | |
| Nonane | Skin - Moderate irritant | Rat | - | 96 hours 300 microliters | - |

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Classification

Section 11. Toxicological information

| Product/ingredient name | OSHA | IARC | NTP |
|-------------------------|------|------|-----|
| Mix 1 Ethanol | - | 1 | - |
| Mix 2 Ethanol | - | 1 | - |
| Mix 3 Ethanol | - | 1 | - |
| Mix 4 Ethanol | - | 1 | - |
| Mix 5 Ethanol | - | 1 | - |

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|--|------------|-------------------|---|
| Mix 1 2,2,4-trimethylpentane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Ethanol | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Heptane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Methanol | Category 1 | Not determined | central nervous system (CNS) |
| | Category 3 | Not applicable. | Respiratory tract irritation |
| Mix 2 Ethanol | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| 2,2,4-trimethylpentane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Heptane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Methanol | Category 1 | Not determined | central nervous system (CNS) |
| | Category 3 | Not applicable. | Respiratory tract irritation |
| Mix 3 Ethanol | Category 3 | Not applicable. | Respiratory tract |

Section 11. Toxicological information

| | | | |
|-------------------------|------------|-----------------|---|
| 2,2,4-trimethylpentane | Category 3 | Not applicable. | irritation and Narcotic effects Respiratory tract irritation and |
| Heptane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| Methanol | Category 1 | Not determined | Narcotic effects central nervous system (CNS) |
| | Category 3 | Not applicable. | Respiratory tract irritation |
| Mix 4 Ethanol | Category 3 | Not applicable. | Respiratory tract irritation and |
| 2,2,4-trimethylpentane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| Heptane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| Methanol | Category 1 | Not determined | Narcotic effects central nervous system (CNS) |
| | Category 3 | Not applicable. | Respiratory tract irritation |
| Mix 5 Ethanol | Category 3 | Not applicable. | Respiratory tract irritation and |
| Methanol | Category 1 | Not determined | Narcotic effects central nervous system (CNS) |
| | Category 3 | Not applicable. | Respiratory tract irritation |
| Mix 6 Decane | Category 3 | Not applicable. | Respiratory tract irritation and |
| Heptane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| Octane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| Undecane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation |
| 3-Methylhexane | Category 3 | Not applicable. | Respiratory tract irritation and |
| Nonane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| 2,2-Dimethylbutane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and |
| 2,2,4-trimethylpentane | Category 3 | Not applicable. | Narcotic effects Respiratory tract |

Section 11. Toxicological information

| | | | |
|---------------------|------------|-----------------|---|
| 2,4-Dimethylpentane | Category 3 | Not applicable. | irritation and Narcotic effects Respiratory tract irritation and |
| Pentane | Category 3 | Not applicable. | Narcotic effects Respiratory tract irritation and Narcotic effects |

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|-------------------------|-----------------|--------------------------|----------------------|
| Mix 1 Ethanol | Category 2 | Not determined | liver |
| Mix 2 Ethanol | Category 2 | Not determined | liver |
| Mix 3 Ethanol | Category 2 | Not determined | liver |
| Mix 4 Ethanol | Category 2 | Not determined | liver |
| Mix 5 Ethanol | Category 2 | Not determined | liver |

Aspiration hazard

| Name | Result |
|---|--|
| Mix 1 2,2,4-trimethylpentane Heptane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |
| Mix 2 2,2,4-trimethylpentane Heptane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |
| Mix 3 2,2,4-trimethylpentane Heptane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |
| Mix 4 2,2,4-trimethylpentane Heptane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |
| Mix 6 Decane Heptane Octane Undecane 3-Methylhexane Nonane 2,2-Dimethylbutane 2,2,4-trimethylpentane 2,4-Dimethylpentane Pentane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |

Section 11. Toxicological information

Information on the likely routes of exposure : Not available.

Potential acute health effects

| | | |
|---------------------|---------|--|
| Eye contact | : Mix 1 | Causes serious eye irritation. |
| | Mix 2 | Causes serious eye irritation. |
| | Mix 3 | Causes serious eye irritation. |
| | Mix 4 | Causes serious eye irritation. |
| | Mix 5 | Causes serious eye irritation. |
| | Mix 6 | Causes serious eye irritation. |
| Inhalation | : Mix 1 | Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| | Mix 2 | Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| | Mix 3 | Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| | Mix 4 | Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| | Mix 5 | Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| | Mix 6 | Harmful if inhaled. Can cause central nervous system (CNS) depression. May cause drowsiness and dizziness. May cause respiratory irritation. |
| Skin contact | : Mix 1 | Causes skin irritation. Defatting to the skin. |
| | Mix 2 | Causes skin irritation. Defatting to the skin. |
| | Mix 3 | Causes skin irritation. Defatting to the skin. |
| | Mix 4 | Defatting to the skin. May cause skin dryness and irritation. |
| | Mix 5 | No known significant effects or critical hazards. |
| | Mix 6 | Causes skin irritation. Defatting to the skin. |
| Ingestion | : Mix 1 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 2 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 3 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 4 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 5 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |
| | Mix 6 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Irritating to mouth, throat and stomach. |

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

| | | |
|--------------------|---------|---|
| Eye contact | : Mix 1 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 2 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 3 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 4 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 5 | Adverse symptoms may include the following: pain or irritation watering redness |
| | Mix 6 | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | : Mix 1 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 2 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 3 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 4 | Adverse symptoms may include the following: respiratory tract irritation |

Section 11. Toxicological information

coughing
nausea or vomiting
headache

drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Mix 5

Adverse symptoms may include the following:
respiratory tract irritation

coughing
nausea or vomiting
headache

drowsiness/fatigue
dizziness/vertigo
unconsciousness
reduced fetal weight
increase in fetal deaths
skeletal malformations

Mix 6

Adverse symptoms may include the following:
respiratory tract irritation

coughing
nausea or vomiting
headache

drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact

: Mix 1

Adverse symptoms may include the following:
irritation

redness
dryness
cracking

reduced fetal weight
increase in fetal deaths
skeletal malformations

Mix 2

Adverse symptoms may include the following:
irritation

redness
dryness
cracking

reduced fetal weight
increase in fetal deaths
skeletal malformations

Mix 3

Adverse symptoms may include the following:
irritation

redness
dryness
cracking

reduced fetal weight
increase in fetal deaths
skeletal malformations

Mix 4

Adverse symptoms may include the following:
irritation

dryness
cracking
reduced fetal weight

increase in fetal deaths
skeletal malformations

Section 11. Toxicological information

| | | |
|------------------|---------|---|
| | Mix 5 | Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 6 | Adverse symptoms may include the following: irritation redness dryness cracking |
| Ingestion | : Mix 1 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 2 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 3 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 4 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 5 | Adverse symptoms may include the following: nausea or vomiting reduced fetal weight increase in fetal deaths skeletal malformations |
| | Mix 6 | Adverse symptoms may include the following: nausea or vomiting |

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

Not available.

General : Mix 1

May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.

Mix 2

May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking

Section 11. Toxicological information

| | | |
|------------------------------|--|--|
| | Mix 3 | and/or dermatitis. May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. |
| | Mix 4 | May cause damage to organs through prolonged or repeated exposure. Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. |
| | Mix 5 | May cause damage to organs through prolonged or repeated exposure. |
| | Mix 6 | Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. |
| Carcinogenicity | : Mix 1 Mix 2 Mix 3 Mix 4 Mix 5 Mix 6 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Mutagenicity | : Mix 1 Mix 2 Mix 3 Mix 4 Mix 5 Mix 6 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Teratogenicity | : Mix 1 Mix 2 Mix 3 Mix 4 Mix 5 Mix 6 | May damage the unborn child. May damage the unborn child. May damage the unborn child. May damage the unborn child. May damage the unborn child. No known significant effects or critical hazards. |
| Developmental effects | : Mix 1 Mix 2 Mix 3 Mix 4 Mix 5 Mix 6 | No known significant effects or critical hazards. No known significant effects or critical hazards. |
| Fertility effects | : Mix 1 Mix 2 Mix 3 Mix 4 Mix 5 Mix 6 | May damage fertility. May damage fertility. May damage fertility. May damage fertility. May damage fertility. No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

| Route | ATE value |
|---------------------|------------|
| Mix 6 | |
| Inhalation (gases) | 16100 ppm |
| Inhalation (vapors) | 85.53 mg/l |

Section 11. Toxicological information

| | | |
|--------------------------|---------|--|
| Other information | : Mix 1 | Adverse symptoms may include the following: Eye contact can result in corneal damage or blindness. |
| | Mix 2 | Adverse symptoms may include the following: Eye contact can result in corneal damage or blindness. |
| | Mix 3 | Adverse symptoms may include the following: Eye contact can result in corneal damage or blindness. |
| | Mix 4 | Adverse symptoms may include the following: Eye contact can result in corneal damage or blindness. |
| | Mix 5 | Adverse symptoms may include the following: Eye contact can result in corneal damage or blindness. |
| | Mix 6 | Not available. |

Section 12. Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure | |
|-------------------------------------|--|--|---------------------------------------|----------|
| Mix 1 Ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours | |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours | |
| | Acute LC50 42000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 4 days | |
| | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| | Chronic NOEC 0.375 ul/L Fresh water | Fish - Gambusia holbrooki - Larvae | 12 weeks | |
| | Heptane Methanol | Acute LC50 375000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |
| | | Acute EC50 16.912 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | | Acute EC50 10000000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | | Acute LC50 2500000 µg/l Marine water | Crustaceans - Crangon crangon - Adult | 48 hours |
| Acute LC50 100 mg/l Fresh water | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours | | |
| Chronic NOEC 9.96 mg/l Marine water | Algae - Ulva pertusa | 96 hours | | |
| Mix 2 Ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours | |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia franciscana - Larvae | 48 hours | |
| | Acute LC50 42000 µg/l Fresh water | Fish - Oncorhynchus mykiss | 4 days | |
| | Chronic NOEC 4.995 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| | Chronic NOEC 0.375 ul/L Fresh water | Fish - Gambusia holbrooki - Larvae | 12 weeks | |
| | Heptane Methanol | Acute LC50 375000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |
| | | Acute EC50 16.912 mg/l Marine water | Algae - Ulva pertusa | 96 hours |
| | | Acute EC50 10000000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours |
| | | Acute LC50 2500000 µg/l Marine water | Crustaceans - Crangon crangon - Adult | 48 hours |
| Acute LC50 100 mg/l Fresh water | Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) | 96 hours | | |
| Chronic NOEC 9.96 mg/l Marine water | Algae - Ulva pertusa | 96 hours | | |
| Mix 3 Ethanol | Acute EC50 17.921 mg/l Marine water | Algae - Ulva pertusa | 96 hours | |
| | Acute EC50 2000 µg/l Fresh water | Daphnia - Daphnia magna | 48 hours | |
| | Acute LC50 25500 µg/l Marine water | Crustaceans - Artemia | 48 hours | |

Section 12. Ecological information

| | | | |
|-------------------------|---|---|--|
| Heptane Methanol | Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water | franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae | 4 days 96 hours 12 weeks |
| | Acute LC50 375000 µg/l Fresh water Acute EC50 16.912 mg/l Marine water Acute EC50 10000000 µg/l Fresh water Acute LC50 2500000 µg/l Marine water Acute LC50 100 mg/l Fresh water Chronic NOEC 9.96 mg/l Marine water | Fish - Oreochromis mossambicus Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Crangon crangon - Adult Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) Algae - Ulva pertusa | 96 hours 96 hours 48 hours 48 hours 96 hours 96 hours |
| Mix 4 Ethanol | Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water | Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae | 96 hours 48 hours 48 hours 4 days 96 hours 12 weeks |
| Heptane Methanol | Acute LC50 375000 µg/l Fresh water Acute EC50 16.912 mg/l Marine water Acute EC50 10000000 µg/l Fresh water Acute LC50 2500000 µg/l Marine water Acute LC50 100 mg/l Fresh water Chronic NOEC 9.96 mg/l Marine water | Fish - Oreochromis mossambicus Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Crangon crangon - Adult Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) Algae - Ulva pertusa | 96 hours 96 hours 48 hours 48 hours 96 hours 96 hours |
| Mix 5 Ethanol | Acute EC50 17.921 mg/l Marine water Acute EC50 2000 µg/l Fresh water Acute LC50 25500 µg/l Marine water Acute LC50 42000 µg/l Fresh water Chronic NOEC 4.995 mg/l Marine water Chronic NOEC 0.375 ul/L Fresh water | Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Artemia franciscana - Larvae Fish - Oncorhynchus mykiss Algae - Ulva pertusa Fish - Gambusia holbrooki - Larvae | 96 hours 48 hours 48 hours 4 days 96 hours 12 weeks |
| Methanol | Acute EC50 16.912 mg/l Marine water Acute EC50 10000000 µg/l Fresh water Acute LC50 2500000 µg/l Marine water Acute LC50 100 mg/l Fresh water Chronic NOEC 9.96 mg/l Marine water | Algae - Ulva pertusa Daphnia - Daphnia magna Crustaceans - Crangon crangon - Adult Fish - Pimephales promelas - Juvenile (Fledgling, Hatchling, Weanling) Algae - Ulva pertusa | 96 hours 48 hours 48 hours 96 hours 96 hours |
| Mix 6 Decane | Acute EC50 89 mg/l Fresh water Acute LC50 18000 to 24000 µg/l Fresh water Acute LC50 >500 ppm Marine water | Algae - Pseudokirchneriella subcapitata Daphnia - Daphnia magna Fish - Cyprinodon variegatus - Juvenile (Fledgling, Hatchling, | 96 hours 48 hours 96 hours |

Section 12. Ecological information

| | | | |
|---------|------------------------------------|---|----------|
| Heptane | Acute LC50 375000 µg/l Fresh water | Weanling) Fish - Oreochromis mossambicus | 96 hours |
|---------|------------------------------------|---|----------|

12.2 Persistence and degradability

| Product/ingredient name | Test | Result | Dose | Inoculum |
|--|------|--------------------|------|----------|
| Mix 1 2,2,4-trimethylpentane | - | 0 to 84 % - 8 days | - | - |
| Mix 2 2,2,4-trimethylpentane | - | 0 to 84 % - 8 days | - | - |
| Mix 3 2,2,4-trimethylpentane | - | 0 to 84 % - 8 days | - | - |
| Mix 4 2,2,4-trimethylpentane | - | 0 to 84 % - 8 days | - | - |
| Mix 6 2,2,4-trimethylpentane | - | 0 to 84 % - 8 days | - | - |

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|-------------------|------------|---------------------|
| Mix 1 2,2,4-trimethylpentane Ethanol | - - | - - | Inherent Readily |
| Mix 2 Ethanol 2,2,4-trimethylpentane | - - | - - | Readily Inherent |
| Mix 3 Ethanol 2,2,4-trimethylpentane | - - | - - | Readily Inherent |
| Mix 4 Ethanol 2,2,4-trimethylpentane | - - | - - | Readily Inherent |
| Mix 5 Ethanol | - | - | Readily |
| Mix 6 2,2,4-trimethylpentane | - | - | Inherent |

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|--|--------------------------------|------------------------|---------------------------|
| Mix 1 2,2,4-trimethylpentane Ethanol Heptane Methanol | 4.08 -0.35 4.66 -0.77 | 231 - 552 <10 | low low high low |
| Mix 2 Ethanol 2,2,4-trimethylpentane Heptane | -0.35 4.08 4.66 | - 231 552 | low low high |

Section 12. Ecological information

| | | | |
|------------------------|-------|-------|------|
| Methanol | -0.77 | <10 | low |
| Mix 3 | | | |
| Ethanol | -0.35 | - | low |
| 2,2,4-trimethylpentane | 4.08 | 231 | low |
| Heptane | 4.66 | 552 | high |
| Methanol | -0.77 | <10 | low |
| Mix 4 | | | |
| Ethanol | -0.35 | - | low |
| 2,2,4-trimethylpentane | 4.08 | 231 | low |
| Heptane | 4.66 | 552 | high |
| Methanol | -0.77 | <10 | low |
| Mix 5 | | | |
| Ethanol | -0.35 | - | low |
| Methanol | -0.77 | <10 | low |
| Mix 6 | | | |
| Decane | 5.86 | - | high |
| Heptane | 4.66 | 552 | high |
| Octane | 5.18 | 198.7 | low |
| Undecane | 6.42 | - | high |
| Nonane | 5.65 | 105 | low |
| 2,2-Dimethylbutane | 3.82 | - | low |
| 2,2,4-trimethylpentane | 4.08 | 231 | low |
| 2,4-Dimethylpentane | 3.9 | - | low |
| Pentane | 3.45 | 171 | low |

12.4 Mobility in soil

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

12.5 Other adverse effects :

| | |
|-------|---|
| Mix 1 | No known significant effects or critical hazards. |
| Mix 2 | No known significant effects or critical hazards. |
| Mix 3 | No known significant effects or critical hazards. |
| Mix 4 | No known significant effects or critical hazards. |
| Mix 5 | No known significant effects or critical hazards. |
| Mix 6 | 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.

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

Additional information : **Remarks**
De minimis quantities

DOT / IMDG / IATA : Not regulated.

Section 15. Regulatory information

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

U.S. Federal regulations : **TSCA 4(a) final test rules:** Nonane
TSCA 8(a) PAIR: Heptane; Nonane; Pentane
TSCA 12(b) one-time export: Nonane
United States inventory (TSCA 8b): All components are listed or exempted.
Clean Air Act (CAA) 112 regulated flammable substances: Pentane

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

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

Composition/information on ingredients

Section 15. Regulatory information

| Name | % | Fire hazard | Sudden release of pressure | Reactive | Immediate (acute) health hazard | Delayed (chronic) health hazard |
|------------------------|----------|-------------|----------------------------|----------|---------------------------------|---------------------------------|
| Mix 1 | | | | | | |
| 2,2,4-trimethylpentane | 60 - 100 | Yes. | No. | No. | Yes. | No. |
| Ethanol | 10 - 30 | Yes. | No. | No. | Yes. | Yes. |
| Heptane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| Methanol | 0.1 - 1 | Yes. | No. | No. | Yes. | Yes. |
| Mix 2 | | | | | | |
| Ethanol | 30 - 60 | Yes. | No. | No. | Yes. | Yes. |
| 2,2,4-trimethylpentane | 30 - 60 | Yes. | No. | No. | Yes. | No. |
| Heptane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| Methanol | 0.1 - 1 | Yes. | No. | No. | Yes. | Yes. |
| Mix 3 | | | | | | |
| Ethanol | 60 - 100 | Yes. | No. | No. | Yes. | Yes. |
| 2,2,4-trimethylpentane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| Heptane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| Methanol | 0.1 - 1 | Yes. | No. | No. | Yes. | Yes. |
| Mix 4 | | | | | | |
| Ethanol | 60 - 100 | Yes. | No. | No. | Yes. | Yes. |
| 2,2,4-trimethylpentane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| Heptane | 1 - 5 | Yes. | No. | No. | Yes. | No. |
| Methanol | 0.1 - 1 | Yes. | No. | No. | Yes. | Yes. |
| Mix 5 | | | | | | |
| Ethanol | 60 - 100 | Yes. | No. | No. | Yes. | Yes. |
| Methanol | < 0.1 | Yes. | No. | No. | Yes. | Yes. |
| Mix 6 | | | | | | |
| Decane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| Heptane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| Octane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| Undecane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| 3-Methylhexane | 10 - 30 | Yes. | No. | No. | Yes. | No. |
| Nonane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| 2,2-Dimethylbutane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| 2,2,4-trimethylpentane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| 2,4-Dimethylpentane | 5 - 10 | Yes. | No. | No. | Yes. | No. |
| Pentane | 5 - 10 | Yes. | No. | No. | Yes. | No. |

State regulations

Massachusetts

: The following components are listed: ISOOCTANE; HEPTANE (N-HEPTANE); ETHYL ALCOHOL; NONANE; OCTANE; 3-METHYLHEXANE; 2,4-DIMETHYLPENTANE; 2, 2-DIMETHYLBUTANE; PENTANE

New York

: The following components are listed: 2,2,4-Trimethylpentane

New Jersey

: The following components are listed: ISOOCTANE; 2,2,4-TRIMETHYLPENTANE; n-HEPTANE; HEPTANE; ETHYL ALCOHOL; ALCOHOL; UNDECANE; HENDECANE; DECANE; NONANE; OCTANE; 3-METHYLHEXANE; HEXANE, 3-METHYL-; 2, 4-DIMETHYLPENTANE; PENTANE, 2,4-DIMETHYL-; NEOHEXANE; 2,2 DIMETHYL BUTANE; PENTANE

Pennsylvania

: The following components are listed: PENTANE, 2,2,4-TRIMETHYL-; HEPTANE; DENATURED ALCOHOL; DECANE; NONANE; OCTANE; HEXANE, 3-METHYL-; PENTANE, 2,4-DIMETHYL-; BUTANE, 2,2-DIMETHYL-; PENTANE

Section 15. Regulatory information

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|--------------------------|--------|--------------|---------------------------|---|
| Mix 1 Methanol | No. | Yes. | No. | 23000 µg/day (ingestion) 47000 µg/day (inhalation) |
| Mix 2 Methanol | No. | Yes. | No. | 23000 µg/day (ingestion) 47000 µg/day (inhalation) |
| Mix 3 Methanol | No. | Yes. | No. | 23000 µg/day (ingestion) 47000 µg/day (inhalation) |
| Mix 4 Methanol | No. | Yes. | No. | 23000 µg/day (ingestion) 47000 µg/day (inhalation) |
| Mix 5 Methanol | No. | Yes. | No. | 23000 µg/day (ingestion) 47000 µg/day (inhalation) |

Canada inventory : At least one component is not listed in DSL but all such components are listed in NDSL.

International regulations

International lists

- Australia inventory (AICS):** Not determined.
- China inventory (IECSC):** All components are listed or exempted.
- Japan inventory:** All components are listed or exempted.
- Korea inventory:** All components are listed or exempted.
- Malaysia Inventory (EHS Register):** Not determined.
- New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.
- Philippines inventory (PICCS):** All components are listed or exempted.
- Taiwan inventory (CSNN):** Not determined.

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

Section 16. Other information

History

Date of issue : 6/10/2014.
Date of previous issue : 11/12/2012.
Version : 2

✔ 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.