

SAFETY DATA SHEET

EN12916:2006 IP391-07 Sys. Cal. Std. 1,2, Part Number 5190-0485

Section 1. Identification

1.1 Product identifier

Product name : EN12916:2006 IP391-07 Sys. Cal. Std. 1,2, Part Number 5190-0485

Part no. (chemical kit) : 5190-0485

Part no. : EN12916:2006 IP391-07 Sys. Cal. Std. 1 5190-0485-1
EN12916:2006 IP391-07 Sys. Cal. Std. 2 5190-0485-2

Validation date : 5/21/2018

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

Material uses : Reagents and Standards for Analytical Chemistry Laboratory Use
 EN12916:2006 IP391-07 Sys. Cal. Std. 1 1 x 1 ml
 EN12916:2006 IP391-07 Sys. Cal. Std. 2 1 x 1 ml

1.3 Details of the supplier of the safety data sheet

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

1.4 Emergency telephone number

In case of emergency : CHEMTREC®: 1-800-424-9300

Section 2. Hazards identification

2.1 Classification of the substance or mixture

OSHA/HCS status : EN12916:2006 IP391-07 Sys. Cal. Std. 1 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
EN12916:2006 IP391-07 Sys. Cal. Std. 2 This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

EN12916:2006 IP391-07 Sys.

Cal. Std. 1

H225 FLAMMABLE LIQUIDS - Category 2
H315 SKIN IRRITATION - Category 2
H319 EYE IRRITATION - Category 2A
H351 CARCINOGENICITY - Category 2
H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
H304 ASPIRATION HAZARD - Category 1
H402 AQUATIC HAZARD (ACUTE) - Category 3
H410 AQUATIC HAZARD (LONG-TERM) - Category 1

EN12916:2006 IP391-07 Sys.

Cal. Std. 2

H225 FLAMMABLE LIQUIDS - Category 2
H315 SKIN IRRITATION - Category 2
H319 EYE IRRITATION - Category 2A
H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Section 2. Hazards identification

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| H336 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 |
| H304 | ASPIRATION HAZARD - Category 1 |
| H410 | AQUATIC HAZARD (LONG-TERM) - Category 1 |

2.2 GHS label elements

Hazard pictograms

: EN12916:2006 IP391-07 Sys. Cal. Std. 1



EN12916:2006 IP391-07 Sys. Cal. Std. 2



Signal word

: EN12916:2006 IP391-07 Sys. Cal. Std. 1 Danger

EN12916:2006 IP391-07 Sys. Cal. Std. 2 Danger

Hazard statements

: EN12916:2006 IP391-07 Sys. Cal. Std. 1 H225 - Highly flammable liquid and vapor.

H319 - Causes serious eye irritation.

H315 - Causes skin irritation.

H351 - Suspected of causing cancer.

H304 - May be fatal if swallowed and enters airways.

H335 - May cause respiratory irritation.

H336 - May cause drowsiness or dizziness.

H410 - Very toxic to aquatic life with long lasting effects.

EN12916:2006 IP391-07 Sys. Cal. Std. 2 H225 - Highly flammable liquid and vapor.

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 or dizziness.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

: EN12916:2006 IP391-07 Sys. Cal. Std. 1 P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions have been read and understood.

P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P233 - Keep container tightly closed.

Section 2. Hazards identification

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| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | <p>P271 - Use only outdoors or in a well-ventilated area. P273 - Avoid release to the environment. P261 - Avoid breathing vapor. P264 - Wash hands thoroughly after handling. P280 - Wear protective gloves. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. 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. P273 - Avoid release to the environment. P261 - Avoid breathing vapor. P264 - Wash hands thoroughly after handling.</p> |
| Response | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | <p>P391 - Collect spillage.</p> <p>P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + 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+P364 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. 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> |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | <p>P391 - Collect spillage.</p> <p>P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + 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+P364 - IF ON SKIN: Wash</p> |

Section 2. Hazards identification

with plenty of soap and water. Take off contaminated clothing and wash it before reuse.
 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.

Storage : EN12916:2006 IP391-07 Sys. Cal. Std. 1 P405 - Store locked up.

P403 - Store in a well-ventilated place.
 P235 - Keep cool.

EN12916:2006 IP391-07 Sys. Cal. Std. 2 P405 - Store locked up.

P403 - Store in a well-ventilated place.
 P235 - Keep cool.

Disposal : EN12916:2006 IP391-07 Sys. Cal. Std. 1 P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

EN12916:2006 IP391-07 Sys. Cal. Std. 2 P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : EN12916:2006 IP391-07 Sys. Cal. Std. 1 None known.
 EN12916:2006 IP391-07 Sys. Cal. Std. 2 None known.

2.3 Other hazards

Hazards not otherwise classified : EN12916:2006 IP391-07 Sys. Cal. Std. 1 None known.
 EN12916:2006 IP391-07 Sys. Cal. Std. 2 None known.

Section 3. Composition/information on ingredients

Substance/mixture : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Mixture
 EN12916:2006 IP391-07 Sys. Cal. Std. 2 Mixture

| Ingredient name | % | CAS number |
|----------------------------------------|-------|------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 | | |
| Heptane | ≥90 | 142-82-5 |
| Cyclohexane | ≤2.2 | 110-82-7 |
| naphthalene | ≤0.22 | 91-20-3 |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 | | |
| Heptane | ≥90 | 142-82-5 |

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

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|---------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |
| Inhalation | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| Skin contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Flush contaminated skin with plenty of water. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Flush contaminated skin with plenty of water. 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. |

Section 4. First aid measures

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|------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ingestion | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | 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 | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Causes serious eye irritation. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Causes serious eye irritation. |
| Inhalation | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation. |
| Skin contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Causes skin irritation. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Causes skin irritation. |
| Ingestion | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. |

Over-exposure signs/symptoms

Section 4. First aid measures

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| Eye contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: pain or irritation watering redness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| Skin contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: irritation redness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: irritation redness |
| Ingestion | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: nausea or vomiting |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: nausea or vomiting |

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

| | | |
|----------------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Notes to physician | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. |
| Specific treatments | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No specific treatment. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No specific treatment. |

Section 4. First aid measures

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| Protection of first-aiders | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 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. |

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

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| Suitable extinguishing media | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Use dry chemical, CO ₂ , water spray (fog) or foam. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Use dry chemical, CO ₂ , water spray (fog) or foam. |
| Unsuitable extinguishing media | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Do not use water jet. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Do not use water jet. |

5.2 Special hazards arising from the substance or mixture

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|---------------------------------------------------|------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Specific hazards arising from the chemical | : <input checked="" type="checkbox"/> EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. 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. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |

Section 5. Fire-fighting measures

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| Hazardous thermal decomposition products | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Decomposition products may include the following materials: carbon dioxide carbon monoxide |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Decomposition products may include the following materials: carbon dioxide carbon monoxide |
| 5.3 Advice for firefighters | | |
| Special protective actions for fire-fighters | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| Special protective equipment for fire-fighters | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. |

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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|------------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| For non-emergency personnel | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. |

Section 6. Accidental release measures

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| For emergency responders | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". |
| 6.2 Environmental precautions | : EN12916:2006 IP391-07 Sys. Cal. Std. 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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage. |

6.3 Methods and materials for containment and cleaning up

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|--------------------------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Methods for cleaning up | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 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. |

Section 7. Handling and storage

7.1 Precautions for safe handling

| | | |
|----------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Protective measures | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not swallow. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open |
|----------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Section 7. Handling and storage

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.

EN12916:2006 IP391-07 Sys. Cal. Std. 2

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: EN12916:2006 IP391-07 Sys. Cal. Std. 1

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

EN12916:2006 IP391-07 Sys. Cal. Std. 2

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

: EN12916:2006 IP391-07 Sys. Cal. Std. 1

Store between the following temperatures: 18 to 25°C (64.4 to 77°F). 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. See Section 10 for incompatible materials before handling or use.

EN12916:2006 IP391-07 Sys. Cal. Std. 2

Store between the following temperatures: 18 to 25°C (64.4 to 77°F). Store in accordance with local regulations. Store in a segregated and approved

Section 7. Handling and storage

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. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

| | | |
|---------------------------------------------|------------------------------------------|-----------------------------------------------------|
| Recommendations | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Industrial applications, Professional applications. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Industrial applications, Professional applications. |
| Industrial sector specific solutions | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Not applicable. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Not applicable. |

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane | <p>ACGIH TLV (United States, 3/2017). TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 400 ppm 8 hours. TWA: 1600 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2000 mg/m³ 15 minutes.</p> <p>NIOSH REL (United States, 10/2016). TWA: 85 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 440 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes.</p> <p>OSHA PEL (United States, 6/2016). TWA: 500 ppm 8 hours. TWA: 2000 mg/m³ 8 hours.</p> |
| Cyclohexane | <p>ACGIH TLV (United States, 3/2017). TWA: 100 ppm 8 hours.</p> <p>OSHA PEL 1989 (United States, 3/1989). TWA: 300 ppm 8 hours. TWA: 1050 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2016). TWA: 300 ppm 10 hours. TWA: 1050 mg/m³ 10 hours.</p> <p>OSHA PEL (United States, 6/2016).</p> |

Section 8. Exposure controls/personal protection

| | |
|------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>naphthalene</p> | <p>TWA: 300 ppm 8 hours. TWA: 1050 mg/m³ 8 hours. ACGIH TLV (United States, 3/2017). Absorbed through skin. TWA: 10 ppm 8 hours. TWA: 52 mg/m³ 8 hours. OSHA PEL 1989 (United States, 3/1989). TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes. NIOSH REL (United States, 10/2016). TWA: 10 ppm 10 hours. TWA: 50 mg/m³ 10 hours. STEL: 15 ppm 15 minutes. STEL: 75 mg/m³ 15 minutes. OSHA PEL (United States, 6/2016). TWA: 10 ppm 8 hours. TWA: 50 mg/m³ 8 hours.</p> |
| <p>EN12916:2006 IP391-07 Sys. Cal. Std. 2 Heptane</p> | <p>ACGIH TLV (United States, 3/2017). TWA: 400 ppm 8 hours. TWA: 1640 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2050 mg/m³ 15 minutes. OSHA PEL 1989 (United States, 3/1989). TWA: 400 ppm 8 hours. TWA: 1600 mg/m³ 8 hours. STEL: 500 ppm 15 minutes. STEL: 2000 mg/m³ 15 minutes. NIOSH REL (United States, 10/2016). TWA: 85 ppm 10 hours. TWA: 350 mg/m³ 10 hours. CEIL: 440 ppm 15 minutes. CEIL: 1800 mg/m³ 15 minutes. OSHA PEL (United States, 6/2016). TWA: 500 ppm 8 hours. TWA: 2000 mg/m³ 8 hours.</p> |

8.2 Exposure controls

Appropriate engineering controls

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

Environmental exposure controls

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

Individual protection measures

Section 8. Exposure controls/personal protection

- 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** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

- Physical state** : EN12916:2006 IP391-07 Sys. Cal. Liquid.
Std. 1
EN12916:2006 IP391-07 Sys. Cal. Liquid.
Std. 2
- Color** : EN12916:2006 IP391-07 Sys. Cal. Colorless.
Std. 1
EN12916:2006 IP391-07 Sys. Cal. Colorless.
Std. 2
- Odor** : EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 1
EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 2
- Odor threshold** : EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 1
EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 2
- pH** : EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 1
EN12916:2006 IP391-07 Sys. Cal. Not available.
Std. 2

Section 9. Physical and chemical properties

| | | | |
|-----------------------------------------------------|---|---------------------------------|-----------------------------------------------------------------|
| Melting point | : | EN12916:2006 IP391-07 Sys. Cal. | -91°C (-131.8°F) |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | -91°C (-131.8°F) |
| | | Std. 2 | |
| Boiling point | : | EN12916:2006 IP391-07 Sys. Cal. | 98°C (208.4°F) |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | 98°C (208.4°F) |
| | | Std. 2 | |
| Flash point | : | EN12916:2006 IP391-07 Sys. Cal. | Closed cup: -1.11°C (30°F) |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Closed cup: -1.11°C (30°F) |
| | | Std. 2 | |
| Evaporation rate | : | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 2 | |
| Flammability (solid, gas) | : | EN12916:2006 IP391-07 Sys. Cal. | Not applicable. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Not applicable. |
| | | Std. 2 | |
| Lower and upper explosive (flammable) limits | : | EN12916:2006 IP391-07 Sys. Cal. | Lower: 1.05% |
| | | Std. 1 | |
| | | | Upper: 6.7% |
| | | EN12916:2006 IP391-07 Sys. Cal. | Lower: 1.05% |
| | | Std. 2 | |
| | | | Upper: 6.7% |
| Vapor pressure | : | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 2 | |
| Vapor density | : | EN12916:2006 IP391-07 Sys. Cal. | 3.5 [Air = 1] |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | 3.5 [Air = 1] |
| | | Std. 2 | |
| Relative density | : | EN12916:2006 IP391-07 Sys. Cal. | 0.684 |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | 0.684 |
| | | Std. 2 | |
| Solubility | : | EN12916:2006 IP391-07 Sys. Cal. | Insoluble in the following materials: cold water and hot water. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Insoluble in the following materials: cold water and hot water. |
| | | Std. 2 | |
| Partition coefficient: n-octanol/water | : | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 2 | |
| Auto-ignition temperature | : | EN12916:2006 IP391-07 Sys. Cal. | 215°C (419°F) |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | 215°C (419°F) |
| | | Std. 2 | |
| Decomposition temperature | : | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 1 | |
| | | EN12916:2006 IP391-07 Sys. Cal. | Not available. |
| | | Std. 2 | |

Section 9. Physical and chemical properties

| | | |
|------------------|------------------------------------------|----------------|
| Viscosity | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Not available. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Not available. |

Section 10. Stability and reactivity

| | | |
|------------------------------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 10.1 Reactivity | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No specific test data related to reactivity available for this product or its ingredients. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No specific test data related to reactivity available for this product or its ingredients. |
| 10.2 Chemical stability | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | The product is stable. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | The product is stable. |
| 10.3 Possibility of hazardous reactions | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 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. |
| 10.5 Incompatible materials | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Reactive or incompatible with the following materials: oxidizing materials |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Reactive or incompatible with the following materials: oxidizing materials |
| 10.6 Hazardous decomposition products | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | 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

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|--------------------------------------------------------------|-----------------------|-----------------------|--------------------------|----------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| | LC50 Inhalation Vapor | Rat | 48000 ppm | 4 hours |
| Cyclohexane | LC50 Inhalation Vapor | Rat - Male, Female | >32880 mg/m ³ | 4 hours |
| naphthalene | LD50 Oral | Rat | 6240 mg/kg | - |
| | LD50 Dermal | Rabbit | >20 g/kg | - |
| | LD50 Oral | Rat | 490 mg/kg | - |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 Heptane | LC50 Inhalation Vapor | Rat | 103 g/m ³ | 4 hours |
| | LC50 Inhalation Vapor | Rat | 48000 ppm | 4 hours |

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|------------------------------------------------------------------|------------------------|---------|-------|------------------------------|-------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 naphthalene | Skin - Severe irritant | Rabbit | - | 24 hours 0.05 Milliliters | - |

Sensitization

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

| Product/ingredient name | OSHA | IARC | NTP |
|------------------------------------------------------------------|------|------|--------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 naphthalene | - | 2B | Reasonably anticipated to be a human carcinogen. |

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

| Name | Category | Route of exposure | Target organs |
|----------------------------------------------------------|------------|-------------------|---------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| Cyclohexane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
| naphthalene | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |

Section 11. Toxicological information

| | | | |
|---------------------------------------------------|------------|-----------------|---------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 Heptane | Category 3 | Not applicable. | Respiratory tract irritation and Narcotic effects |
|---------------------------------------------------|------------|-----------------|---------------------------------------------------|

Specific target organ toxicity (repeated exposure)

| Name | Category | Route of exposure | Target organs |
|-------------------------------------------------------|------------|-------------------|---------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 naphthalene | Category 2 | Not determined | blood system, kidneys and liver |

Aspiration hazard

| Name | Result |
|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane Cyclohexane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 EN12916:2006 IP391-07 Sys. Cal. Std. 2 Heptane | ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1 |

Information on the likely routes of exposure : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Routes of entry anticipated: Oral, Dermal, Inhalation.
EN12916:2006 IP391-07 Sys. Cal. Std. 2 Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Eye contact : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Causes serious eye irritation.
EN12916:2006 IP391-07 Sys. Cal. Std. 2 Causes serious eye irritation.

Inhalation : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.
EN12916:2006 IP391-07 Sys. Cal. Std. 2 Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Causes skin irritation.
EN12916:2006 IP391-07 Sys. Cal. Std. 2 Causes skin irritation.

Ingestion : EN12916:2006 IP391-07 Sys. Cal. Std. 1 Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.
EN12916:2006 IP391-07 Sys. Cal. Std. 2 Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Section 11. Toxicological information

| | | |
|---------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: pain or irritation watering redness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: pain or irritation watering redness |
| Inhalation | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: respiratory tract irritation coughing nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness |
| Skin contact | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: irritation redness |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: irritation redness |
| Ingestion | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: nausea or vomiting |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | 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

Section 11. Toxicological information

| | | |
|------------------------------|------------------------------------------|----------------------------------------------------------------------------------------|
| General | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No known significant effects or critical hazards. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |
| Carcinogenicity | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Suspected of causing cancer. Risk of cancer depends on duration and level of exposure. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |
| Mutagenicity | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No known significant effects or critical hazards. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |
| Teratogenicity | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No known significant effects or critical hazards. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |
| Developmental effects | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No known significant effects or critical hazards. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |
| Fertility effects | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | No known significant effects or critical hazards. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | No known significant effects or critical hazards. |

Numerical measures of toxicity

Acute toxicity estimates

Not available.

| | | |
|--------------------------|------------------------------------------|------------------------------------------------------------------------------------------------------|
| Other information | : EN12916:2006 IP391-07 Sys. Cal. Std. 1 | Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking. |
| | : EN12916:2006 IP391-07 Sys. Cal. Std. 2 | Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking. |

Section 12. Ecological information

12.1 Toxicity

| Product/ingredient name | Result | Species | Exposure |
|---------------------------------------------------------------------------------|------------------------------------|------------------------------------------|----------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane Cyclohexane naphthalene | Acute LC50 375000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |
| | Acute LC50 4530 µg/l Fresh water | Fish - Pimephales promelas | 96 hours |
| | Acute EC50 1600 µg/l Fresh water | Daphnia - Daphnia magna - Neonate | 48 hours |
| | Acute LC50 2350 µg/l Marine water | Crustaceans - Palaemonetes pugio | 48 hours |
| | Acute LC50 213 µg/l Fresh water | Fish - Melanotaenia fluviatilis - Larvae | 96 hours |
| | Chronic NOEC 0.5 mg/l Marine water | Crustaceans - Uca pugnax - Adult | 3 weeks |
| | Chronic NOEC 1.5 mg/l Fresh water | Fish - Oreochromis mossambicus | 60 days |
| EN12916:2006 IP391-07 Sys. | | | |

Section 12. Ecological information

| | | | |
|-------------------------------|------------------------------------|--------------------------------|----------|
| Cal. Std. 2 Heptane | Acute LC50 375000 µg/l Fresh water | Fish - Oreochromis mossambicus | 96 hours |
|-------------------------------|------------------------------------|--------------------------------|----------|

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-----------------------------------------------|--------------------|-------------|-----------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 | | | |
| Heptane | 4.66 | 552 | high |
| Cyclohexane | 3.44 | 167 | low |
| naphthalene | 3.4 | 36.5 to 168 | low |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 | | | |
| Heptane | 4.66 | 552 | high |

12.4 Mobility in soil

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

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

Section 13. Disposal considerations

13.1 Waste treatment methods

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

United States - RCRA Toxic hazardous waste "U" List

| Ingredient | CAS # | Status | Reference number |
|-------------------------------------------------------------------------------------------|----------|--------|------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Cyclohexane (I); Benzene, hexahydro- (I) | 110-82-7 | Listed | U056 |

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

DOT / TDG / Mexico / IMDG / : Not regulated.

IATA

[Additional information](#)

Remarks : De minimis quantities

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

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

[15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture](#)

U.S. Federal regulations : **TSCA 8(a) PAIR:** Heptane; naphthalene
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
Clean Water Act (CWA) 307: naphthalene; Chrysene
Clean Water Act (CWA) 311: Cyclohexane; o-xylene; naphthalene

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

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

[SARA 302/304](#)

[Composition/information on ingredients](#)

No products were found.

SARA 304 RQ : Not applicable.

[SARA 311/312](#)

Section 15. Regulatory information

Classification : EN12916:2006 IP391-07 Sys. Cal. FLAMMABLE LIQUIDS - Category 2
Std. 1

SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1
EN12916:2006 IP391-07 Sys. Cal. FLAMMABLE LIQUIDS - Category 2
Std. 2

SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)
(Narcotic effects) - Category 3
ASPIRATION HAZARD - Category 1

Composition/information on ingredients

| Name | % | Classification |
|------------------------------------------------------|-------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Heptane | ≥90 | FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 |
| Cyclohexane | ≤2.2 | HNOC - Defatting irritant FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 |
| naphthalene | ≤0.22 | FLAMMABLE SOLIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (blood system, kidneys, liver) - Category 2 |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 Heptane | ≥90 | FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 HNOC - Defatting irritant |

[SARA 313](#)

Section 15. Regulatory information

| | Product name | CAS number | % |
|---------------------------------|----------------------------------------------------------------------|---------------------|---------------|
| Form R - Reporting requirements | EN12916:2006 IP391-07 Sys. Cal. Std. 1 Cyclohexane naphthalene | 110-82-7 91-20-3 | ≤2.2 ≤0.22 |
| | EN12916:2006 IP391-07 Sys. Cal. Std. 2 Chrysene | 218-01-9 | <0.1 |
| Supplier notification | EN12916:2006 IP391-07 Sys. Cal. Std. 1 Cyclohexane naphthalene | 110-82-7 91-20-3 | ≤2.2 ≤0.22 |

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

State regulations

Massachusetts : The following components are listed: HEPTANE; N-HEPTANE

New York : None of the components are listed.

New Jersey : The following components are listed: n-HEPTANE; HEPTANE

Pennsylvania : The following components are listed: HEPTANE

California Prop. 65

WARNING: This product can expose you to chemicals including Naphthalene, Carbon-black extracts, Chrysene, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

| Ingredient name | No significant risk level | Maximum acceptable dosage level |
|--------------------------------------------------------------------------------|---------------------------|---------------------------------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 Naphthalene Carbon-black extracts | Yes. - | - - |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 Chrysene | Yes. | - |

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

| Ingredient name | List name | Status |
|------------------------------------------------|----------------|--------|
| EN12916:2006 IP391-07 Sys. Cal. Std. 1 PAHs | POPs - Annex 3 | Listed |

Inventory list

Australia : Not determined.

Canada : All components are listed or exempted.

Section 15. Regulatory information

| | |
|--------------------------|------------------------------------------------------------------------------------------------------|
| China | : Not determined. |
| Europe | : All components are listed or exempted. |
| Japan | : Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : Not determined. |
| Malaysia | : Not determined. |
| New Zealand | : All components are listed or exempted. |
| Philippines | : Not determined. |
| Republic of Korea | : Not determined. |
| Taiwan | : All components are listed or exempted. |
| Thailand | : <input checked="" type="checkbox"/> Not determined. |
| Turkey | : Not determined. |
| United States | : All components are listed or exempted. |
| Viet Nam | : <input checked="" type="checkbox"/> Not determined. |

Section 16. Other information

History

| | |
|-------------------------------|--------------|
| Date of issue | : 05/21/2018 |
| Date of previous issue | : 04/28/2016 |
| Version | : 5 |

Procedure used to derive the classification

| Classification | Justification |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> EN12916:2006 IP391-07 Sys. Cal. Std. 1 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (ACUTE) - Category 3 AQUATIC HAZARD (LONG-TERM) - Category 1 | On basis of test data Calculation method Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method Calculation method |
| EN12916:2006 IP391-07 Sys. Cal. Std. 2 FLAMMABLE LIQUIDS - Category 2 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3 ASPIRATION HAZARD - Category 1 AQUATIC HAZARD (LONG-TERM) - Category 1 | On basis of test data Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method |

Indicates information that has changed from previously issued version.

Notice to reader

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