

SAFETY DATA SHEET



Biodiesel Reference Standards Kit, Part Number 0020-905

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name : Biodiesel Reference Standards Kit, Part Number 0020-905
Part No. (Kit) : 0020-905
Part No. : A2-103 Not available.
A2-104 Not available.
A2-105 Not available.

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

Identified uses	
Analytical chemistry. 1 ml x 36 vials	
A2-103	12 x 1 ml vials
A2-104	12 x 1 ml vials
A2-105	12 x 1 ml vials

1.3 Details of the supplier of the safety data sheet

Agilent Technologies Manufacturing GmbH & Co. KG
Hewlett-Packard-Str. 8
76337 Waldbronn
Germany
0800 603 1000

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

1.4 Emergency telephone number

Emergency telephone number (with hours of operation) : CHEMTREC®: +(44)-870-8200418

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : A2-103 Mono-constituent substance
A2-104 Mixture
A2-105 Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

A2-103

H332 ACUTE TOXICITY (inhalation) - Category 4
H315 SKIN CORROSION/IRRITATION - Category 2
H351 CARCINOGENICITY - Category 2
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
H304 ASPIRATION HAZARD - Category 1
H411 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

A2-104

H332 ACUTE TOXICITY (inhalation) - Category 4
H315 SKIN CORROSION/IRRITATION - Category 2
H351 CARCINOGENICITY - Category 2
H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
H304 ASPIRATION HAZARD - Category 1

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SECTION 2: Hazards identification

H411 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

A2-105

H332 ACUTE TOXICITY (inhalation) - Category 4
 H315 SKIN CORROSION/IRRITATION - Category 2
 H351 CARCINOGENICITY - Category 2
 H373 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2
 H304 ASPIRATION HAZARD - Category 1
 H411 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

Hazard pictograms : A2-103



A2-104



A2-105



Signal word : A2-103
 A2-104
 A2-105

Danger
 Danger
 Danger

Hazard statements : A2-103

H332 - Harmful if inhaled.
 H315 - Causes skin irritation.
 H351 - Suspected of causing cancer.
 H304 - May be fatal if swallowed and enters airways.
 H373 - May cause damage to organs through prolonged or repeated exposure.

A2-104

H411 - Toxic to aquatic life with long lasting effects.
 H332 - Harmful if inhaled.
 H315 - Causes skin irritation.
 H351 - Suspected of causing cancer.
 H304 - May be fatal if swallowed and enters airways.
 H373 - May cause damage to organs through prolonged or repeated exposure.

A2-105

H411 - Toxic to aquatic life with long lasting effects.
 H332 - Harmful if inhaled.
 H315 - Causes skin irritation.
 H351 - Suspected of causing cancer.
 H304 - May be fatal if swallowed and enters airways.
 H373 - May cause damage to organs through prolonged or repeated exposure.
 H411 - Toxic to aquatic life with long lasting effects.

Precautionary statements

SECTION 2: Hazards identification

Prevention	: A2-103	P201 - Obtain special instructions before use. P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
	A2-104	P201 - Obtain special instructions before use. P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
	A2-105	P201 - Obtain special instructions before use. P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P273 - Avoid release to the environment. P260 - Do not breathe vapour.
Response	: A2-103	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
	A2-104	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
	A2-105	P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting.
Storage	: A2-103 A2-104 A2-105	P405 - Store locked up. P405 - Store locked up. P405 - Store locked up.
Disposal	: A2-103 A2-104 A2-105	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations. P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazardous ingredients	: A2-104 A2-105	- Fuels, diesel, No 2 - Fuels, diesel, No 2
Supplemental label elements	: A2-103 A2-104 A2-105	Not applicable. Not applicable. Not applicable.
Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: A2-103 A2-104 A2-105	Not applicable. Not applicable. Not applicable.
<u>Special packaging requirements</u>		
Tactile warning of danger	: A2-103 A2-104 A2-105	Not applicable. Not applicable. Not applicable.
2.3 Other hazards		
Other hazards which do not result in classification	: A2-103 A2-104 A2-105	None known. None known. None known.

SECTION 3: Composition/information on ingredients

3.1 Substances : A2-103 Mono-constituent substance
 A2-104 Mixture
 A2-105 Mixture

Product/ingredient name	Identifiers	%	Regulation (EC) No. 1272/2008 [CLP]	Type
A2-103 Fuels, diesel, No 2	EC: 270-676-1 CAS: 68476-34-6 Index: 649-227-00-2	100	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 (bone marrow, liver, thymus) Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[A]
A2-104 Fuels, diesel, No 2	EC: 270-676-1 CAS: 68476-34-6 Index: 649-227-00-2	≥90	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 (bone marrow, liver, thymus) Asp. Tox. 1, H304 Aquatic Chronic 2, H411	[1]
A2-105 Fuels, diesel, No 2	EC: 270-676-1 CAS: 68476-34-6 Index: 649-227-00-2	≥90	Flam. Liq. 3, H226 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 (bone marrow, liver, thymus) Asp. Tox. 1, H304 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	[1]

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.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern
- [6] Additional disclosure due to company policy
- [A] Constituent
- [B] Impurity
- [C] Stabilising additive

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact	: A2-103	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.
	A2-104	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.
	A2-105	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	: A2-103	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.
	A2-104	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.
	A2-105	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	: A2-103	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.
	A2-104	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.
	A2-105	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

Ingestion	: A2-103	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.
	A2-104	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.
	A2-105	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.
Protection of first-aiders	: A2-103	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.
	A2-104	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.
	A2-105	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.

SECTION 4: First aid measures

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact	: A2-103	No known significant effects or critical hazards.
	A2-104	No known significant effects or critical hazards.
	A2-105	No known significant effects or critical hazards.
Inhalation	: A2-103	Harmful if inhaled.
	A2-104	Harmful if inhaled.
	A2-105	Harmful if inhaled.
Skin contact	: A2-103	Causes skin irritation.
	A2-104	Causes skin irritation.
	A2-105	Causes skin irritation.
Ingestion	: A2-103	May be fatal if swallowed and enters airways.
	A2-104	May be fatal if swallowed and enters airways.
	A2-105	May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact	: A2-103	Adverse symptoms may include the following: pain or irritation watering redness
	A2-104	Adverse symptoms may include the following: pain or irritation watering redness
	A2-105	Adverse symptoms may include the following: pain or irritation watering redness
Inhalation	: A2-103	No specific data.
	A2-104	No specific data.
	A2-105	No specific data.
Skin contact	: A2-103	Adverse symptoms may include the following: irritation redness
	A2-104	Adverse symptoms may include the following: irritation redness
	A2-105	Adverse symptoms may include the following: irritation redness
Ingestion	: A2-103	Adverse symptoms may include the following: nausea or vomiting
	A2-104	Adverse symptoms may include the following: nausea or vomiting
	A2-105	Adverse symptoms may include the following: nausea or vomiting

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician	: A2-103	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	A2-104	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	A2-105	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: A2-103	No specific treatment.
	A2-104	No specific treatment.
	A2-105	No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	: A2-103	Use an extinguishing agent suitable for the surrounding fire.
	A2-104	Use an extinguishing agent suitable for the surrounding fire.
	A2-105	Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: A2-103	None known.
	A2-104	None known.
	A2-105	None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture	: A2-103	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	A2-104	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	A2-105	In a fire or if heated, a pressure increase will occur and the container may burst. This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous combustion products	: A2-103	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	A2-104	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	A2-105	Decomposition products may include the following materials: carbon dioxide carbon monoxide

5.3 Advice for firefighters

Special precautions for fire-fighters	: A2-103	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.
	A2-104	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.
	A2-105	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.
Special protective equipment for fire-fighters	: A2-103	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	A2-104	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.
	A2-105	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for

SECTION 5: Firefighting measures

fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : A2-103

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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

A2-104

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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

A2-105

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 spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : A2-103

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".

A2-104

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".

A2-105

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 : A2-103

Avoid dispersal of spilt 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.

A2-104

Avoid dispersal of spilt 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.

A2-105

Avoid dispersal of spilt 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 material for containment and cleaning up

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9/22

SECTION 6: Accidental release measures

Methods for cleaning up	: A2-103	Stop leak if without risk. Move containers from spill area. 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.
	A2-104	Stop leak if without risk. Move containers from spill area. 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.
	A2-105	Stop leak if without risk. Move containers from spill area. 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.
6.4 Reference to other sections	: See Section 1 for emergency contact information. See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information.	

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Protective measures	: A2-103	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 breathe vapour or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	A2-104	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 breathe vapour or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	A2-105	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 breathe vapour or mist. Do not swallow. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

SECTION 7: Handling and storage

Advice on general occupational hygiene	: A2-103	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.
	A2-104	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.
	A2-105	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

Storage	: A2-103	Store in accordance with local regulations. 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. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	A2-104	Store in accordance with local regulations. 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. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.
	A2-105	Store in accordance with local regulations. 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. 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 unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Danger criteria

SECTION 7: Handling and storage

Category	Notification and MAPP threshold	Safety report threshold
A2-103 E2: Hazardous to the aquatic environment - Chronic 2	200	500
A2-104 E2: Hazardous to the aquatic environment - Chronic 2	200	500
A2-105 E2: Hazardous to the aquatic environment - Chronic 2	200	500

7.3 Specific end use(s)

Recommendations	: A2-103 A2-104 A2-105	Industrial applications, Professional applications. Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: A2-103 A2-104 A2-105	Not applicable. Not applicable. Not applicable.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available

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.

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.

SECTION 8: Exposure controls/personal protection

- 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.
- 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.
- 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: A2-103	Liquid. [Fluid.]
	A2-104	Liquid. [Fluid.]
	A2-105	Liquid. [Fluid.]
Colour	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Odour	: A2-103	Characteristic.
	A2-104	Characteristic.
	A2-105	Characteristic.
Odour threshold	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
pH	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Melting point/freezing point	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Initial boiling point and boiling range	: A2-103	204°C
	A2-104	204°C
	A2-105	204°C
Flash point	: A2-103	Closed cup: 69°C
	A2-104	Closed cup: 69°C
	A2-105	Closed cup: 69°C
Evaporation rate	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.

SECTION 9: Physical and chemical properties

Flammability (solid, gas)	: A2-103	Not applicable.
	A2-104	Not applicable.
	A2-105	Not applicable.
Upper/lower flammability or explosive limits	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Vapour pressure	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Vapour density	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Relative density	: A2-103	Not available.
	A2-104	Not available.
	A2-105	1.105
Solubility(ies)	: A2-103	Insoluble in the following materials: cold water and hot water.
	A2-104	Insoluble in the following materials: cold water and hot water.
	A2-105	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Auto-ignition temperature	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Decomposition temperature	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Viscosity	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Explosive properties	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.
Oxidising properties	: A2-103	Not available.
	A2-104	Not available.
	A2-105	Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity	: A2-103	No specific test data related to reactivity available for this product or its ingredients.
	A2-104	No specific test data related to reactivity available for this product or its ingredients.
	A2-105	No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: A2-103	The product is stable.
	A2-104	The product is stable.
	A2-105	The product is stable.

SECTION 10: Stability and reactivity

10.3 Possibility of hazardous reactions	: A2-103	Under normal conditions of storage and use, hazardous reactions will not occur.
	A2-104	Under normal conditions of storage and use, hazardous reactions will not occur.
	A2-105	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: A2-103	No specific data.
	A2-104	No specific data.
	A2-105	No specific data.
10.5 Incompatible materials	: A2-103	May react or be incompatible with oxidising materials.
	A2-104	May react or be incompatible with oxidising materials.
	A2-105	May react or be incompatible with oxidising materials.
10.6 Hazardous decomposition products	: A2-103	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	A2-104	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	A2-105	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
A2-103 Fuels, diesel, No 2	LD50 Dermal	Rabbit	4300 mg/kg	-
	LD50 Oral	Rat	7600 mg/kg	-
A2-104 Fuels, diesel, No 2	LD50 Dermal	Rabbit	4300 mg/kg	-
	LD50 Oral	Rat	7600 mg/kg	-
A2-105 Fuels, diesel, No 2	LD50 Dermal	Rabbit	4300 mg/kg	-
	LD50 Oral	Rat	7600 mg/kg	-

Acute toxicity estimates

Route	ATE value
A2-103 Inhalation (dusts and mists)	1.5 mg/l
A2-104 Inhalation (dusts and mists)	1.501 mg/l
A2-105 Inhalation (dusts and mists)	1.508 mg/l

Irritation/Corrosion

Conclusion/Summary : Not available.

Sensitiser

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

SECTION 11: Toxicological information

Product/ingredient name	Category	Route of exposure	Target organs
A2-103 Fuels, diesel, No 2	Category 2	Not determined	bone marrow, liver and thymus
A2-104 Fuels, diesel, No 2	Category 2	Not determined	bone marrow, liver and thymus
A2-105 Fuels, diesel, No 2	Category 2	Not determined	bone marrow, liver and thymus

Aspiration hazard

Product/ingredient name	Result
A2-103 Fuels, diesel, No 2 Fuels, diesel, No 2	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
A2-104 A2-104 Fuels, diesel, No 2	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
A2-105 A2-105 Fuels, diesel, No 2	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : A2-103
A2-104
A2-105

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

Potential acute health effects

Inhalation : A2-103 Harmful if inhaled.
A2-104 Harmful if inhaled.
A2-105 Harmful if inhaled.

Ingestion : A2-103 May be fatal if swallowed and enters airways.
A2-104 May be fatal if swallowed and enters airways.
A2-105 May be fatal if swallowed and enters airways.

Skin contact : A2-103 Causes skin irritation.
A2-104 Causes skin irritation.
A2-105 Causes skin irritation.

Eye contact : A2-103 No known significant effects or critical hazards.
A2-104 No known significant effects or critical hazards.
A2-105 No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : A2-103 No specific data.
A2-104 No specific data.
A2-105 No specific data.

Ingestion : A2-103 Adverse symptoms may include the following:
nausea or vomiting
A2-104 Adverse symptoms may include the following:
nausea or vomiting
A2-105 Adverse symptoms may include the following:
nausea or vomiting

SECTION 11: Toxicological information

Skin contact	: A2-103	Adverse symptoms may include the following: irritation redness
	A2-104	Adverse symptoms may include the following: irritation redness
	A2-105	Adverse symptoms may include the following: irritation redness
Eye contact	: A2-103	Adverse symptoms may include the following: pain or irritation watering redness
	A2-104	Adverse symptoms may include the following: pain or irritation watering redness
	A2-105	Adverse symptoms may include the following: pain or irritation watering redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General	: A2-103	May cause damage to organs through prolonged or repeated exposure.
	A2-104	May cause damage to organs through prolonged or repeated exposure.
	A2-105	May cause damage to organs through prolonged or repeated exposure.
Carcinogenicity	: A2-103	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	A2-104	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
	A2-105	Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
Mutagenicity	: A2-103	No known significant effects or critical hazards.
	A2-104	No known significant effects or critical hazards.
	A2-105	No known significant effects or critical hazards.
Teratogenicity	: A2-103	No known significant effects or critical hazards.
	A2-104	No known significant effects or critical hazards.
	A2-105	No known significant effects or critical hazards.
Developmental effects	: A2-103	No known significant effects or critical hazards.
	A2-104	No known significant effects or critical hazards.
	A2-105	No known significant effects or critical hazards.
Fertility effects	: A2-103	No known significant effects or critical hazards.
	A2-104	No known significant effects or critical hazards.
	A2-105	No known significant effects or critical hazards.

SECTION 12: Ecological information

12.1 Toxicity

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
A2-103 Fuels, diesel, No 2	>3.3	-	low
A2-104 Fuels, diesel, No 2	>3.3	-	low
A2-105 Fuels, diesel, No 2	>3.3	-	low

12.4 Mobility in soil

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

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not applicable.

vPvB : Not applicable.

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

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised 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.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

ADR/RID / IMDG / IATA : Not regulated.

Additional information

De minimis quantities

14.6 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.

14.7 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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles	: A2-103	Not applicable.
	A2-104	Not applicable.
	A2-105	Not applicable.

Other EU regulations

Ozone depleting substances (1005/2009/EU)

Not listed.

Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

Seveso Directive

This product is controlled under the Seveso Directive.

Danger criteria

Category

A2-103

E2: Hazardous to the aquatic environment - Chronic 2

A2-104

E2: Hazardous to the aquatic environment - Chronic 2

A2-105

E2: Hazardous to the aquatic environment - Chronic 2

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

SECTION 15: Regulatory information

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
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	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: All components are listed or exempted.
Viet Nam	: Not determined.

15.2 Chemical safety assessment : This product contains substances for which Chemical Safety Assessments might still be required.

SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
A2-103 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method
A2-104 Acute Tox. 4, H332 Skin Irrit. 2, H315 Carc. 2, H351 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	Calculation method Calculation method Calculation method Calculation method Expert judgment Calculation method

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20/22

Biodiesel Reference Standards Kit, Part Number 0020-905

SECTION 16: Other information

A2-105

Acute Tox. 4, H332
 Skin Irrit. 2, H315
 Carc. 2, H351
 STOT RE 2, H373
 Asp. Tox. 1, H304
 Aquatic Chronic 2, H411

Calculation method
 Calculation method
 Calculation method
 Calculation method
 Expert judgment
 Calculation method

Full text of abbreviated H statements

A2-103

H226
 H304
 H315
 H332
 H351
 H373

Flammable liquid and vapour.
 May be fatal if swallowed and enters airways.
 Causes skin irritation.
 Harmful if inhaled.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.
 Toxic to aquatic life with long lasting effects.

A2-104

H226
 H304
 H315
 H332
 H351
 H373

Flammable liquid and vapour.
 May be fatal if swallowed and enters airways.
 Causes skin irritation.
 Harmful if inhaled.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.
 Toxic to aquatic life with long lasting effects.

A2-105

H226
 H304
 H315
 H332
 H351
 H373

Flammable liquid and vapour.
 May be fatal if swallowed and enters airways.
 Causes skin irritation.
 Harmful if inhaled.
 Suspected of causing cancer.
 May cause damage to organs through prolonged or repeated exposure.
 Toxic to aquatic life with long lasting effects.

Full text of classifications [CLP/GHS]

A2-103

Acute Tox. 4, H332
 Aquatic Chronic 2, H411
 Asp. Tox. 1, H304
 Carc. 2, H351
 Flam. Liq. 3, H226
 Skin Irrit. 2, H315
 STOT RE 2, H373

ACUTE TOXICITY (inhalation) - Category 4
 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
 ASPIRATION HAZARD - Category 1
 CARCINOGENICITY - Category 2
 FLAMMABLE LIQUIDS - Category 3
 SKIN CORROSION/IRRITATION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

A2-104

Acute Tox. 4, H332
 Aquatic Chronic 2, H411
 Asp. Tox. 1, H304
 Carc. 2, H351
 Flam. Liq. 3, H226
 Skin Irrit. 2, H315
 STOT RE 2, H373

ACUTE TOXICITY (inhalation) - Category 4
 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
 ASPIRATION HAZARD - Category 1
 CARCINOGENICITY - Category 2
 FLAMMABLE LIQUIDS - Category 3
 SKIN CORROSION/IRRITATION - Category 2
 SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 2

A2-105

Acute Tox. 4, H332

ACUTE TOXICITY (inhalation) - Category 4

Biodiesel Reference Standards Kit, Part Number 0020-905

SECTION 16: Other information

Aquatic Chronic 2, H411
Asp. Tox. 1, H304
Carc. 2, H351
Flam. Liq. 3, H226
Skin Irrit. 2, H315
STOT RE 2, H373

LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
ASPIRATION HAZARD - Category 1
CARCINOGENICITY - Category 2
FLAMMABLE LIQUIDS - Category 3
SKIN CORROSION/IRRITATION - Category 2
SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE
- Category 2

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