



NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 16/06/2020

Revision date:

Version: 1.0

ES-5638

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

1.1. Product identifier

Product form : Mixtures
Product name : NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE
Product code : ES-5638

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

1.2.1. Relevant identified uses

Main use category : Professional use
Industrial/Professional use spec : For professional use only

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Cambridge Isotope Laboratories, Inc.
50 Frontage Road
Andover, MA 01810
USA

USA: 1-800-322-1174 Int: 1-978-749-8000
cilsales@isotope.com www.isotope.com

Emergency telephone number

Emergency numbers:

Chemtrec: 1-800-424-9300 (24 hours)
International: 1-703-741-5970 (24 hours)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Dermal) H312
Skin Irrit. 2 H315
Eye Irrit. 2 H319
Carc. 2 H351
STOT SE 3 H336
STOT SE 3 H335
STOT RE 2 H373

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

Xi; R36/37/38
Carc. Cat. 3; R40
T; R48/25
R67
Xn; R21/22

Full text of R-phrases: see section 16

GHS-US classification

Acute Tox. 4 (Oral) H302
Acute Tox. 4 (Dermal) H312
Skin Irrit. 2 H315
Eye Irrit. 2A H319
Carc. 2 H351
STOT SE 3 H336
STOT SE 3 H335
STOT RE 2 H373

Full text of H statements : see section 16

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Adverse physicochemical, human health and environmental effects

Liver, Pancreas, Blood, Central nervous system, Heart, Kidney. Inhalation: anesthetic effects, nausea and drunkenness. Suspected of causing cancer (in contact with skin, if swallowed, if inhaled). May cause damage to organs (liver, blood, central nervous system) through prolonged or repeated exposure (if swallowed, if inhaled). May cause drowsiness or dizziness. Harmful in contact with skin. Harmful if swallowed. May cause respiratory irritation. Causes skin irritation. Causes serious eye irritation.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Warning

Hazard statements (CLP)

: H302+H312 - Harmful if swallowed or in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer (in contact with skin, if inhaled, if swallowed)
H373 - May cause damage to organs (central nervous system, blood, liver) through prolonged or repeated exposure (oral, inhalation)

Precautionary statements (CLP)

: P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective clothing, protective gloves.
P301+P312 - IF SWALLOWED: Call a doctor, a POISON CENTER if you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of water.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

GHS-US labeling

Hazard pictograms (GHS-US)



Signal word (GHS-US)

: Warning

Hazard statements (GHS-US)

: H302+H312 - Harmful if swallowed or in contact with skin
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation
H336 - May cause drowsiness or dizziness
H351 - Suspected of causing cancer (Dermal, Inhalation, oral)
H373 - May cause damage to organs (blood, central nervous system, liver, respiratory system) through prolonged or repeated exposure (Dermal, Inhalation, oral)

Precautionary statements (GHS-US)

: P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe dust, fume, gas, mist, spray, vapors.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P264 - Wash Both hands thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear eye protection, face protection, protective clothing, protective gloves.
P301+P312 - If swallowed: Call a doctor, a POISON CENTER if you feel unwell
P302+P352 - If on skin: Wash with plenty of water
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P308+P313 - If exposed or concerned: Get medical advice/attention.
P312 - Call a doctor, a POISON CENTER if you feel unwell
P314 - Get medical advice/attention if you feel unwell.

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
 P330 - Rinse mouth.
 P332+P313 - If skin irritation occurs: Get medical advice/attention.
 P337+P313 - If eye irritation persists: Get medical advice/attention.
 P362 - Take off contaminated clothing and wash before reuse.
 P362+P364 - Take off contaminated clothing and wash it before reuse.
 P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
 P405 - Store locked up.
 P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

PBT: not relevant – no registration required

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
METHYLENE CHLORIDE UNLABELED	(CAS-No.) 75-09-2 (EC-No.) 200-838-9 (EC Index-No.) 602-004-00-3 (REACH-no) 01-2119480404-41	99.864	Xi; R36/37/38 Carc.Cat.3; R40 T; R48/25 R67 Xn; R21/22
TOLUENE UNLABELED	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (EC Index-No.) 601-021-00-3 (REACH-no) 01-2119471310-51	0.015	F; R11 Xi; R38 Xn; R65 Repr.Cat.3; R62 Repr.Cat.3; R63 R67 N; R51/53 Xn; R48/20
BENZO[A]PYRENE UNLABELED substance listed as REACH Candidate (Benzo[def]chrysene)	(CAS-No.) 50-32-8 (EC-No.) 200-028-5 (EC Index-No.) 601-032-00-3	0.015	Carc.Cat.1; R45 N; R50/53
PHENANTHRENE UNLABELED	(CAS-No.) 85-01-8 (EC-No.) 201-581-5	0.015	Xn; R22 N; R50/53
CHRYSENE UNLABELED	(CAS-No.) 218-01-9 (EC-No.) 205-923-4 (EC Index-No.) 601-048-00-0	0.015	Carc.Cat.2; R45 N; R50/53 Muta.Cat.3; R68
NAPHTHALENE UNLABELED	(CAS-No.) 91-20-3 (EC-No.) 202-049-5 (EC Index-No.) 601-052-00-2	0.015	F; R11 N; R50/53 Xn; R22 Carc.Cat.3; R40
N-DECANE UNLABELED	(CAS-No.) 124-18-5 (EC-No.) 204-686-4	0.015	Xn; R65 F; R11
N-PENTADECANE UNLABELED	(CAS-No.) 629-62-9 (EC-No.) 211-098-1	0.015	Xn; R65
N-EICOSANE UNLABELED	(CAS-No.) 112-95-8 (EC-No.) 204-018-1	0.015	Not classified
N-TETRACOSANE UNLABELED	(CAS-No.) 646-31-1 (EC-No.) 211-474-5 (EC Index-No.)	0.015	Not classified

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
METHYLENE CHLORIDE UNLABELED	(CAS-No.) 75-09-2 (EC-No.) 200-838-9 (EC Index-No.) 602-004-00-3 (REACH-no) 01-2119480404-41	99.864	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 STOT SE 3, H335 STOT RE 2, H373

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
TOLUENE UNLABELED	(CAS-No.) 108-88-3 (EC-No.) 203-625-9 (EC Index-No.) 601-021-00-3 (REACH-no) 01-2119471310-51	0.015	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304
BENZO[A]PYRENE UNLABELED substance listed as REACH Candidate (Benzo[def]chrysene)	(CAS-No.) 50-32-8 (EC-No.) 200-028-5 (EC Index-No.) 601-032-00-3	0.015	Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360 Aquatic Acute 1, H400 (M=10) Aquatic Chronic 1, H410
PHENANTHRENE UNLABELED	(CAS-No.) 85-01-8 (EC-No.) 201-581-5	0.015	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CHRYSENE UNLABELED	(CAS-No.) 218-01-9 (EC-No.) 205-923-4 (EC Index-No.) 601-048-00-0	0.015	Muta. 2, H341 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
NAPHTHALENE UNLABELED	(CAS-No.) 91-20-3 (EC-No.) 202-049-5 (EC Index-No.) 601-052-00-2	0.015	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-DECANE UNLABELED	(CAS-No.) 124-18-5 (EC-No.) 204-686-4	0.015	Flam. Liq. 3, H226 Asp. Tox. 1, H304
N-PENTADECANE UNLABELED	(CAS-No.) 629-62-9 (EC-No.) 211-098-1	0.015	Asp. Tox. 1, H304
N-EICOSANE UNLABELED	(CAS-No.) 112-95-8 (EC-No.) 204-018-1	0.015	Not classified
N-TETRACOSANE UNLABELED	(CAS-No.) 646-31-1 (EC-No.) 211-474-5 (EC Index-No.)	0.015	Not classified

Name	Product identifier	%	GHS-US classification
METHYLENE CHLORIDE UNLABELED	(CAS-No.) 75-09-2	99.864	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 STOT SE 3, H336 STOT SE 3, H335 STOT RE 2, H373
TOLUENE UNLABELED	(CAS-No.) 108-88-3	0.015	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Repr. 2, H361 STOT SE 3, H336 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 2, H401
BENZO[A]PYRENE UNLABELED	(CAS-No.) 50-32-8	0.015	Skin Sens. 1, H317 Muta. 1B, H340 Carc. 1B, H350 Repr. 1B, H360 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
PHENANTHRENE UNLABELED	(CAS-No.) 85-01-8	0.015	Acute Tox. 4 (Oral), H302 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CHRYSENE UNLABELED	(CAS-No.) 218-01-9	0.015	Muta. 2, H341 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
NAPHTHALENE UNLABELED	(CAS-No.) 91-20-3	0.015	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
N-DECANE UNLABELED	(CAS-No.) 124-18-5	0.015	Flam. Liq. 3, H226 Asp. Tox. 1, H304
N-PENTADECANE UNLABELED	(CAS-No.) 629-62-9	0.015	Asp. Tox. 1, H304
N-EICOSANE UNLABELED	(CAS-No.) 112-95-8	0.015	Not classified
N-TETRACOSANE UNLABELED	(CAS-No.) 646-31-1	0.015	Not classified

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of R- and H- phrases: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor/physician if you feel unwell.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: Rinse mouth. Call a poison center/doctor/physician if you feel unwell.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/effects	: May cause drowsiness or dizziness. Suspected of causing cancer (in contact with skin, if inhaled, if swallowed). May cause damage to organs (blood, central nervous system, liver) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

Firefighting instructions	: Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. Wear recommended personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Use personal protective equipment as required. Ventilate spillage area. Do not breathe dust, fume, gas, mist, spray, vapors. Avoid contact with skin, eyes and clothing.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

For containment	: Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.
Methods for cleaning up	: Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust, fume, spray, gas, mist, vapors. Use only outdoors or in a well-ventilated area. Do not get in eyes, on skin, or on clothing.
- Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Containers which are opened should be properly resealed and kept upright to prevent leakage.
- Storage conditions : Store at room temperature away from light and moisture.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Central Nervous system impairment. Carboxyhemoglobinemia. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans. Potential Occupational Carcinogen See Appendix A.
USA OSHA	OSHA PEL (STEL) (mg/m ³)	435 mg/m ³ Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	OSHA PEL (STEL) (ppm)	125 ppm Basis: OSHA Specially Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	87 mg/m ³ Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm Basis: OSHA Specifically Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	Remark (OSHA)	Substance listed; for mor information see OSHA document 1910.1052. See Table Z-2. This section applies to all occupational exposures to methylene chloride (MC). Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment. Methylene chloride (MC) means an organic compound with chemical formula CH ₂ Cl ₂ . Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 8.9 g/mole. OSHA Specifically regulated carcinogen.
METHYLENE CHLORIDE UNLABELED (75-09-2)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Central Nervous system impairment. Carboxyhemoglobinemia. Substances for which there is a Biological Exposure Index or Indices (see BEI section). Confirmed animal carcinogen with unknown relevance to humans. Potential Occupational Carcinogen See Appendix A.
USA OSHA	OSHA PEL (STEL) (mg/m ³)	435 mg/m ³ Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

METHYLENE CHLORIDE UNLABELED (75-09-2)		
USA OSHA	OSHA PEL (STEL) (ppm)	125 ppm Basis: OSHA Specially Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	OSHA PEL (Ceiling) (mg/m ³)	87 mg/m ³ Basis: California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	OSHA PEL (Ceiling) (ppm)	25 ppm Basis: OSHA Specially Regulated Chemicals/Carcinogens California permissible exposure limits for chemical contaminants (Title 8, Article 107) see section 5202
USA OSHA	Remark (OSHA)	Substance listed; for mor information see OSHA document 1910.1052. See Table Z-2. This section applies to all occupational exposures to methylene chloride (MC). Chemical Abstracts Service Registry Number 75-09-2, in general industry, construction and shipyard employment. Methylene chloride (MC) means an organic compound with chemical formula CH ₂ Cl ₂ . Its Chemical Abstracts Service Registry Number is 75-09-2. Its molecular weight is 8.9 g/mole. OSHA Specially regulated carcinogen.
TOLUENE UNLABELED (108-88-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	20.00000000 ppm USA. ACGIH Threshold Limit Values (TLV)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	Visual impairment. Female reproductive. Pregnancy loss. 2015 Adoption. Substances for which there is a Biological Exposure Index or Indices (see BEI® section). Not classifiable as a human carcinogen.; Component: Toluene CAS-No.: 108-88-3 Parameters: Toluene Value: 0.0300 mg/l Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI); Component: Toluene CAS-No.: 108-88-3 Parameters: Toluene Value: 0.0200 mg/l Biological specimen: In blood Remarks: Prior to last shift of workweek Basis: ACGIH - Biological Exposure Indices (BEI); Component: Toluene CAS-No.: 108-88-3 Parameters: o-Cresol Value: 0.3000 mg/g Biological specimen: Urine Remarks: End of shift (As soon as possible after exposure ceases) Basis: ACGIH - Biological Exposure Indices (BEI)
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	375 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	100 ppm USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	560 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	150 ppm USA. NIOSH Recommended Exposure Limits
USA OSHA	OSHA PEL (TWA) (mg/m ³)	375 mg/m ³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000
USA OSHA	OSHA PEL (TWA) (ppm)	100 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000
USA OSHA	OSHA PEL (STEL) (mg/m ³)	560 mg/m ³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000
USA OSHA	OSHA PEL (STEL) (ppm)	150 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants 1910.1000
USA OSHA	OSHA PEL (Ceiling) (ppm)	300 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-2
USA OSHA	Remark (OSHA)	OSHA PEL (TWA) - 200 ppm - USA. Occupational Exposure Limits (OSHA) - Table Z-2. Remarks: Z37.12-1967

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NAPHTHALENE UNLABELED (91-20-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	10.00000000 ppm Hemolytic anemia. Cataract. Confirmed animal carcinogen with unknown relevance to humans. Danger of cutaneous absorption. Upper Respiratory Tract irritation.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	15 ppm Eye & Upper Respiratory Tract irritation. Hematologic effects. Eye damage. Not classifiable as a human carcinogen. Danger of cutaneous absorption.
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	50 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (TWA) (ppm)	10 ppm USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (mg/m ³)	75 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	NIOSH REL (STEL) (ppm)	15 ppm USA. NIOSH Recommended Exposure Limits
USA OSHA	OSHA PEL (TWA) (mg/m ³)	50 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
USA OSHA	OSHA PEL (STEL) (mg/m ³)	75 mg/m ³ USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	OSHA PEL (STEL) (ppm)	15 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
USA OSHA	Remark (OSHA)	PEL 0.5 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin; PEL 0.1 ppm California permissible exposure limits for chemical contaminants (Title 8, Article 107) - Skin

PHENANTHRENE UNLABELED (85-01-8)		
Italy - Portugal - USA ACGIH	ACGIH TWA (mg/m ³)	1- Hydroxypyrene (1-HP) Urine ACGIH - Biological Exposure Indices (BEI)
Italy - Portugal - USA ACGIH	Remark (ACGIH)	End of shift at end of workweek
USA NIOSH	NIOSH REL (TWA) (mg/m ³)	0.1 mg/m ³ USA. NIOSH Recommended Exposure Limits
USA NIOSH	Remark (NIOSH)	Potential Occupational Carcinogen NIOSH considers coal tar, coal tar pitch, and creosote to be coal tar products. cyclohexane-extractable fraction See Appendix C See Appendix A
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.2 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
USA OSHA	OSHA PEL (STEL) (mg/m ³)	0.2 mg/m ³ California permissible exposure limits for chemical contaminants (Title 8, Article 107)
USA OSHA	Remark (OSHA)	1910.1002 As used in §1910.1000 (Table Z-1), coal tar pitch volatiles include the fused polycyclic hydrocarbons which volatilize from the distillation residues of coal, petroleum (excluding asphalt), wood, and other organic matter. Asphalt (CAS 8052-42-4, and CAS 64742-93-4) is not covered under the 'coal tar pitch volatiles' standard OSHA specifically regulated carcinogen

CHRYSENE UNLABELED (218-01-9)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.2 mg/m ³ Cancer Substances for which there is a Biological Exposure Index

BENZO[A]PYRENE UNLABELED (50-32-8)		
USA OSHA	OSHA PEL (TWA) (mg/m ³)	0.2 mg/m ³ Exposure should be carefully controlled to levels as low as possible.

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE		
DNEL/DMEL (Workers)		
Acute - systemic effects, inhalation	706 mg/m ³	
Acute - local effects, inhalation	353 mg/m ³	
Long-term - systemic effects, dermal	4750 mg/kg bodyweight/day	

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE	
DNEL/DMEL (General population)	
Acute - systemic effects, inhalation	353 mg/m ³
Acute - local effects, inhalation	88.3 mg/m ³
Long-term - systemic effects, oral	0.06 mg/kg bodyweight/day
Long-term - systemic effects, dermal	2395 mg/kg bodyweight/day
PNEC (Water)	
PNEC aqua (freshwater)	0.54 mg/l
PNEC aqua (marine water)	0.194 mg/l
PNEC aqua (intermittent, freshwater)	0.27 mg/l
PNEC (Sediment)	
PNEC sediment (freshwater)	4.47 mg/kg dwt
PNEC sediment (marine water)	1.61 mg/kg dwt
PNEC (Soil)	
PNEC soil	0.583 mg/kg dwt
PNEC (STP)	
PNEC sewage treatment plant	26 mg/l

8.2. Exposure controls

- Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Ensure good ventilation of the work station.
- Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



- Materials for protective clothing : Wear suitable protective clothing and gloves.
- Hand protection : Wear suitable protective clothing and gloves.
- Eye protection : Wear eye protection. Chemical goggles or face shield with safety glasses. Safety glasses.
- Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.
- Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.
- Environmental exposure controls : Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid
Color	: Colorless
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available
Explosion limits	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Heat. Sparks. Open flame. Direct sunlight. Protect from sunlight.

10.5. Incompatible materials

Alkali metals. Aluminum. Strong oxidizing agents. Bases. Magnesium. Strong acids. Strong bases. Vinyl.

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂). Hydrogen chloride.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg (OECD Test Guideline 402)
LC50 inhalation rat (mg/l)	52000 mg/m ³
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (vapors)	52.000 mg/l/4h
ATE CLP (dust, mist)	52.000 mg/l/4h
METHYLENE CHLORIDE UNLABELED (75-09-2)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg (OECD Test Guideline 402)
LC50 inhalation rat (mg/l)	52000 mg/m ³
ATE CLP (oral)	500.000 mg/kg body weight
ATE CLP (dermal)	1100.000 mg/kg body weight
ATE CLP (vapors)	52.000 mg/l/4h
ATE CLP (dust, mist)	52.000 mg/l/4h
TOLUENE UNLABELED (108-88-3)	
LD50 oral rat	> 5580 mg/kg
LD50 dermal rabbit	12196 mg/kg
LC50 inhalation rat (mg/l)	12,500 - 28,800 mg/m ³ - 4 h
ATE CLP (dermal)	12196.000 mg/kg body weight
ATE CLP (vapors)	12.500 mg/l/4h
ATE CLP (dust, mist)	12.500 mg/l/4h
NAPHTHALENE UNLABELED (91-20-3)	
LD50 oral rat	490 mg/kg
LD50 dermal rabbit	20000 mg/kg
LC50 inhalation rat (mg/l)	> 0.4 mg/l male and female - 4 h (OECD Test Guideline 403)
ATE CLP (oral)	490.000 mg/kg body weight
ATE CLP (dermal)	20000.000 mg/kg body weight
PHENANTHRENE UNLABELED (85-01-8)	
ATE CLP (oral)	500.000 mg/kg body weight

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PHENANTHRENE UNLABELED (85-01-8)	
Additional information	LD50 Oral Mouse - 700 mg/kg
BENZO[A]PYRENE UNLABELED (50-32-8)	
LD50 dermal rat	50 mg/kg Subcutaneous
N-DECANE UNLABELED (124-18-5)	
LD50 oral rat	> 5000 mg/kg male and female (OECD Test Guideline 401)
LD50 dermal rabbit	> 5000 mg/kg male and female (OECD Test Guideline 402)
LC50 inhalation rat (mg/l)	> 5.6 mg/l male and female - 4 h (OECD Test Guideline 403)
LC50 inhalation rat (ppm)	> 1369 ppm male - 8 h (OECD Test Guideline 403)
N-PENTADECANE UNLABELED (629-62-9)	
LD50 oral rat	> 5000 mg/kg (OECD Test Guideline 401)
LD50 dermal rabbit	> 3160 mg/kg (OECD Test Guideline 402)

Skin corrosion/irritation	: Skin. Rabbit. Irritating to skin. Result: 24 Hours
Serious eye damage/irritation	: Eyes. Rabbit. Result: Irritating to eyes. 24 Hours. (Draize Test)
Respiratory or skin sensitization	: Not available
Germ cell mutagenicity	: Rat. DNA Damage
Carcinogenicity	: Carcinogenicity. Rat. Inhalation. Tumorigenic: Carcinogenic by RTECS criteria. endocrine system. Tumors. Limited evidence of a carcinogenic effect. Suspected human carcinogens
Reproductive toxicity	: Not available
Specific target organ toxicity – single exposure	: May cause respiratory irritation. May cause drowsiness or dizziness
Specific target organ toxicity – repeated exposure	: Inhalation. May cause damage to organs (central nervous system) through prolonged or repeated exposure (Inhalation). Oral
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product. stomach.
Symptoms/effects after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/effects after skin contact	: Harmful in contact with skin. Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Harmful if swallowed.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
-------------------	--

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE	
LC50 fish 1	193 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	1682 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	130 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h

METHYLENE CHLORIDE UNLABELED (75-09-2)	
LC50 fish 1	193 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	1682 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	130 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h

TOLUENE UNLABELED (108-88-3)	
EC50 Daphnia 1	8 mg/l Daphnia magna (Water flea) - 24h
LC50 fish 2	7.63 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h
EC50 Daphnia 2	6 mg/l Daphnia magna (Water flea) - Immobilization - 48 h
ErC50 (algae)	245 mg/l Chlorella vulgaris (Fresh water algae) - 24 h
ErC50 (other aquatic plants)	10 mg/l Pseudokirchneriella subcapitata (Green algae) - 24 h
NOEC (chronic)	5.44 mg/l Pimephales promelas (fathead minnow) - 7 d

NAPHTHALENE UNLABELED (91-20-3)	
LC50 fish 1	7.9 mg/l flow-through test LC50 - Pimephales promelas (fathead minnow) - 96 h (OECD Test Guideline 203)
EC50 Daphnia 1	2.16 mg/l static test Daphnia magna (Water flea) - 48 h

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PHENANTHRENE UNLABELED (85-01-8)	
LC50 fish 1	3.2 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
EC50 Daphnia 1	0.86 mg/l Daphnia magna (Water flea) - 24 h
EC50 Daphnia 2	0.35 mg/l Daphnia pulex (Water flea) - 48 h
ErC50 (algae)	1.2 mg/l Chlorella vulgaris (Fresh water algae) - 3 h
CHRYSENE UNLABELED (218-01-9)	
EC50 Daphnia 1	1.9 mg/l Daphni magna (Water flea) - 2 h
BENZO[A]PYRENE UNLABELED (50-32-8)	
EC50 Daphnia 1	0.25 mg/l Daphnia magna (Water flea) - 48 h
EC50 other aquatic organisms 1	0.02 mg/l Pseudokirchneriella subcapitata (green algae) - 72 h
ErC50 (algae)	0.02 mg/l Pseudokirchneriella subcapitata (green algae) - 48 h
N-DECANE UNLABELED (124-18-5)	
LC50 fish 1	> 1000 mg/l semi-static test LC50 - Oncorhynchus mykiss (rainbow trout) - 96 h (OECD Test Guideline 203)
EC50 Daphnia 1	> 1000 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h
EC50 other aquatic organisms 1	> 1000 static test EC50 - Pseudokirchneriella subcapitata - 72 h (OECD Test Guideline 201)
N-PENTADECANE UNLABELED (629-62-9)	
LC50 fish 1	> 1000 mg/l Other Fish - (OECD Test Guideline 203)
ErC50 (algae)	> 10000 mg/l Skeletonema costatum - 72 h (ISO 10253)
12.2. Persistence and degradability	
NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE	
Biodegradation	< 26 % - Not readily biodegradable. (OECD Test Guideline 301C)
METHYLENE CHLORIDE UNLABELED (75-09-2)	
Biodegradation	< 26 % - Not readily biodegradable. (OECD Test Guideline 301C)
TOLUENE UNLABELED (108-88-3)	
Persistence and degradability	Readily biodegradable.
NAPHTHALENE UNLABELED (91-20-3)	
Persistence and degradability	Aerobic - exposure time: 28 d. Result: 2 % - Not readily biodegradable.
PHENANTHRENE UNLABELED (85-01-8)	
Persistence and degradability	Biodegradability: Result: 55 - 95 % - Partially biodegradable.
N-DECANE UNLABELED (124-18-5)	
Persistence and degradability	Aerobic - exposure time: 28 d.
Biodegradation	83.2 % - Readily biodegradable. (OECD Test Guideline 301F)
N-PENTADECANE UNLABELED (629-62-9)	
Biodegradation	Result: Readily biodegradable. (OECD Test Guideline 303)
12.3. Bioaccumulative potential	
NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE	
Log Pow	1.25
Bioaccumulative potential	Does not accumulate in organisms.
METHYLENE CHLORIDE UNLABELED (75-09-2)	
Log Pow	1.25
Bioaccumulative potential	Does not accumulate in organisms.
TOLUENE UNLABELED (108-88-3)	
BCF fish 1	0.05 mg/l Leuciscus idus (Golden orfe) - 3 d
Bioconcentration factor (BCF REACH)	90
NAPHTHALENE UNLABELED (91-20-3)	
Log Pow	3.4 at 25 °C (77 °F)
Bioaccumulative potential	Bioaccumulation: Fish- Bioconcentration factor (BCF): 427 - 1,158.
PHENANTHRENE UNLABELED (85-01-8)	
BCF fish 1	0.0025 mg/l Bioaccumulation Pimephales promelas (fathead minnow) - 28d
Bioconcentration factor (BCF REACH)	5100
Log Pow	4.46

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

CHRYSENE UNLABELED (218-01-9)	
Log Pow	5.73

BENZO[A]PYRENE UNLABELED (50-32-8)	
Log Pow	5.97
Bioaccumulative potential	Bioconcentration factor (BCF): 3,208.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE
PBT: not relevant – no registration required

METHYLENE CHLORIDE UNLABELED (75-09-2)
PBT: not relevant – no registration required

TOLUENE UNLABELED (108-88-3)
PBT: not relevant – no registration required

BENZO[A]PYRENE UNLABELED (50-32-8)
This substance/mixture meets the PBT criteria of REACH, annex XIII
This substance/mixture meets the vPvB criteria of REACH, annex XIII

12.6. Other adverse effects

Other adverse effects : Avoid release to the environment. Disposal must be done according to official regulations.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Regional legislation (waste) : Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.
- Product/Packaging disposal recommendations : Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.
- Ecology - waste materials : Dispose of as unused product.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

- UN-No.(DOT) : 1593
- DOT NA no. UN1593

14.2. UN proper shipping name

- Proper Shipping Name (DOT) : Dichloromethane
- Class (DOT) : 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
- Hazard labels (DOT) : 6.1 - Poison



- Packing group (DOT) : III - Minor Danger

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). IP8 - Ammonia solutions may be transported in rigid or composite plastic IBCs (31H1, 31H2 and 31HZ1) that have successfully passed, without leakage or permanent deformation, the hydrostatic test specified in 178.814 of this subchapter at a test pressure that is not less than 1.5 times the vapor pressure of the contents at 55 C (131 F). N36 - Aluminum or aluminum alloy construction materials are permitted only for halogenated hydrocarbons that will not react with aluminum. T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT RQ	: 1000 lbs
Marine pollutant	: No

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR)	: III
Class (ADR)	: 6.1 - Toxic substances
Hazard identification number (Kemler No.)	: 60
Classification code (ADR)	: T1
Hazard labels (ADR)	: 6.1 - Toxic substances



Orange plates	:
---------------	---

Tunnel restriction code (ADR)	: E
Limited quantities (ADR)	: 5I
EAC	: 2Z
Excepted quantities (ADR)	: E1

Transport by sea

DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
MFAG-No	: 160

Air transport

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
Civil Aeronautics Law	: Toxic and infectious substances/Toxic substances

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

14.4. Environmental hazards

Other information : No supplementary information available.

14.5. Special precautions for user

14.6. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

METHYLENE CHLORIDE UNLABELED (75-09-2)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

TOLUENE UNLABELED (108-88-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory	
CERCLA RQ	1000 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

NAPHTHALENE UNLABELED (91-20-3)

SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313;

PHENANTHRENE UNLABELED (85-01-8)

SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

CHRYSENE UNLABELED (218-01-9)

SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

BENZO[A]PYRENE UNLABELED (50-32-8)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of United States SARA Section 302
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Subject to reporting requirements of United States SARA Section 313

N-DECANE UNLABELED (124-18-5)

SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Fire hazard Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

N-PENTADECANE UNLABELED (629-62-9)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

N-EICOSANE UNLABELED (112-95-8)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

N-TETRACOSANE UNLABELED (646-31-1)	
SARA Section 302 Threshold Planning Quantity (TPQ)	SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313

15.2. International regulations

CANADA

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE
Listed on the Canadian DSL (Domestic Substances List)

TOLUENE UNLABELED (108-88-3)
Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE()	
U.S. - California - Proposition 65 - Carcinogens List	Yes
U.S. - California - Proposition 65 - Developmental Toxicity	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Female	No
U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No
State or local regulations	U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

METHYLENE CHLORIDE UNLABELED (75-09-2)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

TOLUENE UNLABELED (108-88-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	No	No	

NAPHTHALENE UNLABELED (91-20-3)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	

PHENANTHRENE UNLABELED (85-01-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	Yes	Yes	Yes	

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

CHRYSENE UNLABELED (218-01-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	
BENZO[A]PYRENE UNLABELED (50-32-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
Yes	No	No	No	
N-DECANE UNLABELED (124-18-5)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
N-PENTADECANE UNLABELED (629-62-9)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
N-EICOSANE UNLABELED (112-95-8)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
N-TETRACOSANE UNLABELED (646-31-1)				
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)
No	No	No	No	
METHYLENE CHLORIDE UNLABELED (75-09-2)				
State or local regulations				
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
TOLUENE UNLABELED (108-88-3)				
State or local regulations				
U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances U.S. - Pennsylvania - RTK (Right to Know) List U.S. - Massachusetts - Right To Know List				
NAPHTHALENE UNLABELED (91-20-3)				
State or local regulations				
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List				
PHENANTHRENE UNLABELED (85-01-8)				
State or local regulations				
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List				

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PHENANTHRENE UNLABELED (85-01-8)
U.S. - New Jersey - Right to Know Hazardous Substance List
CHRYSENE UNLABELED (218-01-9)
State or local regulations
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
BENZO[A]PYRENE UNLABELED (50-32-8)
State or local regulations
U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
N-DECANE UNLABELED (124-18-5)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
N-PENTADECANE UNLABELED (629-62-9)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List
N-EICOSANE UNLABELED (112-95-8)
State or local regulations
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List
N-TETRACOSANE UNLABELED (646-31-1)
State or local regulations
U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound.

Full text of R-, H- and EUH-phrases:

Acute Tox. 4 (Dermal)	Acute toxicity (dermal) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Aquatic Acute 1	Hazardous to the aquatic environment - Acute Hazard Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment - Chronic Hazard Category 1
Asp. Tox. 1	Aspiration hazard Category 1
Carc. 1B	Carcinogenicity Category 1B
Carc. 2	Carcinogenicity Category 2
Eye Irrit. 2	Serious eye damage/eye irritation Category 2
Flam. Liq. 2	Flammable liquids Category 2
Flam. Liq. 3	Flammable liquids Category 3
Flam. Sol. 1	Flammable solids Category 1
Muta. 1B	Germ cell mutagenicity Category 1B
Muta. 2	Germ cell mutagenicity Category 2
Repr. 1B	Reproductive toxicity Category 1B
Repr. 2	Reproductive toxicity Category 2
Skin Irrit. 2	Skin corrosion/irritation Category 2
Skin Sens. 1	Skin sensitization, Category 1
STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
STOT SE 3	Specific target organ toxicity (single exposure) Category 3
H225	Highly flammable liquid and vapor
H226	Flammable liquid and vapor

NATIVE KOVATS-LEE RETENTION INDEX MIX 100 UG/ML IN METHYLENE CHLORIDE

ES-5638

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

H228	Flammable solid
H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H312	Harmful in contact with skin
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H340	May cause genetic defects
H341	Suspected of causing genetic defects
H350	May cause cancer
H351	Suspected of causing cancer
H360	May damage fertility or the unborn child
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
R11	Highly flammable
R21/22	Harmful in contact with skin and if swallowed
R22	Harmful if swallowed
R36/37/38	Irritating to eyes, respiratory system and skin
R38	Irritating to skin
R40	Limited evidence of a carcinogenic effect
R45	May cause cancer
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation
R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment
R62	Possible risk of impaired fertility
R63	Possible risk of harm to the unborn child
R65	Harmful: may cause lung damage if swallowed
R67	Vapors may cause drowsiness and dizziness
R68	Possible risk of irreversible effects
F	Highly flammable
N	Dangerous for the environment
T	Toxic
Xi	Irritant
Xn	Harmful

NFPA health hazard

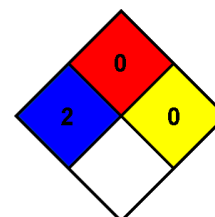
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 0 Minimal Hazard

Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product