

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 /

Rules and Regulations

Date of issue: 14/05/2015 Revision date: Version: 1.0

ES-2003

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

Product identifier

Product form : Mixtures

: BASE NEUTRALS MIXTURE-6.2 Product name.

Product code : ES-2003

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

1.2.1. Relevant identified uses

Industrial/Professional use spec : For professional use only.

1.2.2. Uses advised against

No additional information available

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

Classification of the substance or mixture

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

Flam. Liq. 2 H225 Skin Irrit. 2 H315 H319 Eye Irrit. 2 Muta. 1B H340 Carc. 1A H350 STOT SE 3 H335 STOT SE 3 H336 STOT RE 2 H373 Asp. Tox. 1 H304 Aquatic Chronic 3 H412

Full text of H-phrases: see section 16

Classification according to Directive 67/548/EEC or 1999/45/EC

Carc.Cat.1; R45 Carc.Cat.1; R49 Carc.Cat.3; R40 Muta.Cat.1; R46 F; R11

T; R39/23/24/25 Xn; R20/21/22 Xn; R65 Xi: R36/38 N; R50/53

Full text of R-phrases: see section 16

Classification (GHS-US)

Flam. Liq. 2 H225 Skin Irrit. 2 H315 Eve Irrit, 2A H319 Muta. 1B H340

04/09/2015 EN (English US) 1/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Carc. 1A	H350
STOT SE 3	H335
STOT SE 3	H336
STOT RE 2	H373
Asp. Tox. 1	H304
Aquatic Acute 2	H401
Aquatic Chronic 3	H412

Adverse physicochemical, human health and environmental effects

Blood, Eyes, Female reproductive system, Bone marrow.

2.2. Label elements

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

Hazard pictograms (CLP)







GHS02

Signal word (CLP) : Danger

Hazardous ingredients : CHRYSENE (D12, 98%), BENZO[K]FLUORANTHENE (D12, 98%), METHYLENE CHLORIDE-

D2 (D, 99.8%), BENZENE-D6 (D, 99.5%), BIS(2-CHLOROETHYL)ETHER (D8, 98%)

Hazard statements (CLP) : H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation H319 - Causes serious eye irritation H335 - May cause respiratory irritation H336 - May cause drowsiness or dizziness H340 - May cause genetic defects

H350 - May cause cancer

H373 - May cause damage to organs (blood, eye, bone marrow, genital organs) through

prolonged or repeated exposure

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking

P233 - Keep container tightly closed

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, lighting, ventilating equipment

P260 - Do not breathe fume, mist, spray, vapors P264 - Wash both hands thoroughly after handling P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

GHS-US labeling

Hazard pictograms (GHS-US)







CHSU

GHS07

GHS08

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H225 - Highly flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation H319 - Causes serious eye irritation

H335 - May cause respiratory irritation H336 - May cause drowsiness or dizziness

H340 - May cause genetic defects (Dermal, Inhalation, oral) H350 - May cause cancer (Inhalation, Dermal, oral)

H373 - May cause damage to organs (blood, eye, bone marrow, genital organs) through

prolonged or repeated exposure (Dermal, Inhalation, oral)

H401 - Toxic to aquatic life

H412 - Harmful to aquatic life with long lasting effects

Precautionary statements (GHS-US) : P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking

P233 - Keep container tightly closed

04/09/2015 EN (English US) 2/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

P240 - Ground/bond container and receiving equipment

P241 - Use explosion-proof electrical, lighting, ventilating equipment

P242 - Use only non-sparking tools

P243 - Take precautionary measures against static discharge

P260 - Do not breathe fume, mist, spray, vapors P261 - Avoid breathing fume, mist, spray, vapors

P264 - Wash Both hands thoroughly after handling

F204 - Wash Both hands thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P273 - Avoid release to the environment

P280 - Wear eye protection, face protection, protective clothing, protective gloves

P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician

P302+P352 - IF ON SKIN: Wash with plenty of soap and water

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

P304+P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position 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 POISON CENTER/doctor/physician if you feel unwell

P314 - Get medical advice and attention if you feel unwell

P321 - Specific treatment (see Hazard pictograms (CLP) on this label)

P331 - If swallowed, do NOT induce vomiting

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

P370+P378 - In case of fire: Use Alcohol resistant foam., Carbon dioxide., Dry chemical., Water spray for extinction

P403+P233 - Store in a well-ventilated place. Keep container tightly closed

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

P405 - Store locked up

P501 - Dispose of contents/container to Comply with applicable regulations.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Directive 67/548/EEC
BENZENE-D6 (D, 99.5%)	(CAS No) 1076-43-3 (EC no) 200-753-7 (EC index no) 601-020-00-8	50.84	F; R11 Xn; R22 Xi; R36/38 Carc.Cat.1; R45 Muta.Cat.1; R46 Carc.Cat.2; R49 N; R51 Xn; R65
METHYLENE CHLORIDE-D2 (D, 99.8%)	(CAS No) 1665-00-5 (EC no) 000-838-9 (EC index no) 602-004-00-3	47.4	Carc.Cat.3; R40 T; R39/23/24/25 Xn; R22 Xi; R36/38
ACENAPHTHENE (D10, 99%)	(CAS No) 15067-26-2 (EC no) 201-469-6	0.22	N; R50/53 Xi; R36/37/38
CHRYSENE (D12, 98%)	(CAS No) 1719-03-5 (EC no) 205-923-4 (EC index no) 601-048-00-0	0.22	Carc.Cat.1; R45 Carc.Cat.1; R49 Muta.Cat.3; R68 N; R50/53
FLUORENE (D10, 98%)	(CAS No) 81103-79-9 (EC no) 201-695-5	0.22	Carc.Cat.1; R45 N; R50/53
PYRENE (D10, 98%)	(CAS No) 1718-52-1 (EC no) 204-927-3	0.22	Xi; R36/38 N; R50/53
BENZO[K]FLUORANTHENE (D12, 98%)	(CAS No) 93952-01-3 (EC no) 205-916-6 (EC index no) 601-036-00-5	0.22	Carc.Cat.1; R45 Xi; R36/38 N; R50/53

04/09/2015 EN (English US) 3/16

Safety Data Sheet according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	Classification according to Directive 67/548/EEC
NAPHTHALENE (D8, 99%)	(CAS No) 1146-65-2 (EC no) 202-049-5 (EC index no) 601-052-00-2	0.22	Carc.Cat.3; R40 Xn; R20/21/22 Xn; R22 N; R50/53
ANTHRACENE (D10, 98%) substance listed as REACH Candidate (Anthracene)	(CAS No) 1719-06-8 (EC no) 204-371-1	0.22	Xi; R36/37/38 N; R50/53
BIS(2-CHLOROETHYL)ETHER (D8, 98%)	(CAS No) 93952-02-4 (EC no) 203-870-1	0.22	R10 Muta.Cat.3; R68 T+; R26/27/28
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
BENZENE-D6 (D, 99.5%)	(CAS No) 1076-43-3 (EC no) 200-753-7 (EC index no) 601-020-00-8	50.84	Flam. Liq. 2, H225 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Muta. 1B, H340 Carc. 1A, H350 Asp. Tox. 1, H304
METHYLENE CHLORIDE-D2 (D, 99.8%)	(CAS No) 1665-00-5 (EC no) 000-838-9 (EC index no) 602-004-00-3	47.4	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
ACENAPHTHENE (D10, 99%)	(CAS No) 15067-26-2 (EC no) 201-469-6	0.22	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
CHRYSENE (D12, 98%)	(CAS No) 1719-03-5 (EC no) 205-923-4 (EC index no) 601-048-00-0	0.22	Muta. 2, H341 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
FLUORENE (D10, 98%)	(CAS No) 81103-79-9 (EC no) 201-695-5	0.22	Not classified
PYRENE (D10, 98%)	(CAS No) 1718-52-1 (EC no) 204-927-3	0.22	Not classified
BENZO[K]FLUORANTHENE (D12, 98%)	(CAS No) 93952-01-3 (EC no) 205-916-6 (EC index no) 601-036-00-5	0.22	Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 1A, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
NAPHTHALENE (D8, 99%)	(CAS No) 1146-65-2 (EC no) 202-049-5 (EC index no) 601-052-00-2	0.22	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
ANTHRACENE (D10, 98%) substance listed as REACH Candidate (Anthracene)	(CAS No) 1719-06-8 (EC no) 204-371-1	0.22	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Aquatic Acute 1, H400 (M=1000) Aquatic Chronic 1, H410
BIS(2-CHLOROETHYL)ETHER (D8, 98%)	(CAS No) 93952-02-4 (EC no) 203-870-1	0.22	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Carc. 2, H351
Name	Product identifier	%	Classification (GHS-US)
BENZENE-D6 (D, 99.5%)	(CAS No) 1076-43-3	50.84	Flam. Liq. 2, H225 Acute Tox. Not classified (Oral) Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Muta. 1B, H340 Carc. 1A, H350 Asp. Tox. 1, H304 Aquatic Acute 2, H401

04/09/2015 EN (English US) 4/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Name	Product identifier	%	Classification (GHS-US)
METHYLENE CHLORIDE-D2 (D, 99.8%)	(CAS No) 1665-00-5	47.4	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
CHRYSENE (D12, 98%)	(CAS No) 1719-03-5	0.22	Muta. 2, H341 Carc. 1B, H350 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
BENZO[K]FLUORANTHENE (D12, 98%)	(CAS No) 93952-01-3	0.22	Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 1B, H350 Aquatic Acute 1, H400
NAPHTHALENE (D8, 99%)	(CAS No) 1146-65-2	0.22	Flam. Sol. 1, H228 Acute Tox. 4 (Oral), H302 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Carc. 2, H351 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
BIS(2-CHLOROETHYL)ETHER (D8, 98%)	(CAS No) 93952-02-4	0.22	Flam. Liq. 3, H226 Acute Tox. 3 (Oral), H301 Acute Tox. 2 (Dermal), H310 Acute Tox. 1 (Inhalation), H330 Carc. 2, H351

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

SECTION 4: First aid measures

	the state of the s	
4.1	Description of first aid measur	200

First-aid measures general : Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of

dangerous area.

First-aid measures after inhalation : If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a

physician.

First-aid measures after skin contact : Rinse skin with water/shower. Remove/Take off immediately all contaminated clothing. Wash

with plenty of soap and water. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

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/injuries : May be fatal if swallowed and enters airways.

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after skin contact : Causes skin irritation. Symptoms/injuries after eye contact : Causes eye irritation.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Highly flammable liquid and vapor.

Explosion hazard : May form flammable/explosive vapor-air mixture.

Reactivity : Vapors may form explosive mixture with air.

5.3. Advice for firefighters

Firefighting instructions : Use water spray to cool unopened containers.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

04/09/2015 EN (English US) 5/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures

: Remove ignition sources. Use special care to avoid static electric charges. No naked lights. No smokina.

For non-emergency personnel 6.1.1.

Emergency procedures

: Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

6.1.2. For emergency responders

No additional information available

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Methods and material for containment and cleaning up

For containment

: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wetbrushing and place in container for disposal according to local regulations.

Reference to other sections

No additional information available

SECTION 7: Handling and storage

Precautions for safe handling

Additional hazards when processed

: Handle empty containers with care because residual vapors are flammable.

Precautions for safe handling

: No naked lights. No smoking, Use only non-sparking tools, Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. In case of leaking gas fire, eliminate all ignition sources if safe to do so.

Hygiene measures

: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Conditions for safe storage, including any incompatibilities

Technical measures

: Proper grounding procedures to avoid static electricity should be followed. Ground/bond container and receiving equipment. Use explosion-proof electrical equipment.

Storage conditions

Store at room temperature away from light and moisture.

Incompatible materials : Heat sources.

Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

Control parameters

CHRYSENE (D12, 98%) (1719-03-5)		
USA OSHA	OSHA PEL (TWA) (mg/m3)	0.2000000000 mg/m³ Cancer Substances for which there is a Biological Exposure Index

NAPHTHALENE (D8, 99%) (1	146-65-2)	
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	10.0000000000 ppm Eye & Upper Respiratory Tract irritation. Hematologic effects. Eye damage.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	15.0000000000 ppm Eye & Upper Respiratory Tract irritation. Hematologic effects. Eye damage.

METHYLENE CHLORIDE-D2	(D, 99.8%) (1665-00-5)	
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	50.0000000000 ppm Central Nervous System impairment, Carboxyhemoglobinemia substances (see BEI)
USA OSHA	OSHA PEL (STEL) (ppm)	125.0000000000 ppm

BENZENE-D6 (D, 99.5%) (1076-43-3)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	0.5000000000 ppm Leukemia Substances for which there is a Biological Exposure Index or Indices.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	2.5000000000 ppm Leukemia Substances for which there is a Biological Exposure Index or Indices.
USA OSHA	OSHA PEL (TWA) (ppm)	10.0000000000 ppm

04/09/2015 EN (English US) 6/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

PYRENE (D10, 98%) (1718-52	2-1)	
USA OSHA OSHA PEL (TWA) (mg/m3) 0.2000000000 mg/m³		

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)		
Italy - Portugal - USA ACGIH	ACGIH TWA (ppm)	5.0000000000 ppm Eye & Upper Respiratory Tract irritation. Nausea.
Italy - Portugal - USA ACGIH	ACGIH STEL (ppm)	10.0000000000 ppm Eye & Upper Respiratory Tract irritation. Nausea.
USA OSHA	OSHA PEL (TWA) (ppm)	5.0000000000 ppm Skin notation.
USA OSHA	OSHA PEL (STEL) (ppm)	10.000000000 ppm Skin notation.

ANTHRACENE (D10, 98%) (1	719-06-8)	
USA OSHA	OSHA PEL (TWA) (mg/m3)	0.200000000 mg/m ³

8.2. Exposure controls

Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.



Hand protection : Wear suitable protective clothing and gloves.

Eye protection : Wear safety glasses with side shields (or goggles) and a face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : When appropriate, use NIOSH/CEN approved respirator.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Liquid.

Color : No data available : No data available Odor Odor threshold : No data available рΗ : No data available Relative evaporation rate (butyl acetate=1) : No data available Melting point No data available Freezing point : No data available : No data available Boiling point : No data available Flash point Self ignition temperature : No data available Decomposition temperature : No data available

Flammability (solid, gas) : Highly flammable liquid and vapor

Vapor pressure No data available Relative vapor density at 20 °C No data available Relative density : No data available : No data available Solubility Log Pow No data available : No data available Log Kow Viscosity, kinematic : No data available : No data available Viscosity, dynamic Explosive properties : No data available Oxidizing properties : No data available Explosive limits : No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapors may form explosive mixture with air.

04/09/2015 EN (English US) 7/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

10.2. Chemical stability

See storage and expiration date on CoA.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

Avoid Heat, Flames and Sparks. Extremes of temperature and direct sunlight.

10.5. Incompatible materials

Acids, Bases, Halogens, Strong oxidizing agents, Metallic salts.

10.6. Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

BASE NEUTRALS MIXTURE-6.2	
LD50 oral rat	2990 mg/kg
LD50 dermal rabbit	8263 mg/kg
LC50 inhalation rat (mg/l)	44700 mg/m³ female - 4 h
ATE (oral)	2990.000 mg/kg body weight
ATE (dermal)	8263.000 mg/kg body weight
ATE (vapors)	44.700 mg/l/4h
ATE (dust, mist)	44.700 mg/l/4h

NAPHTHALENE (D8, 99%) (1146-65-2)	
LD50 oral rat	490.0 mg/kg
LD50 dermal rabbit	20000 mg/kg
LC50 inhalation rat (mg/l)	> 340 mg/m³ 1 h
ATE (oral)	490.000 mg/kg body weight
ATE (dermal)	20000.000 mg/kg body weight
ATE (dust, mist)	0.050 mg/l/4h

METHYLENE CHLORIDE-D2 (D, 99.8%) (1665-00-5)	
LD50 oral rat	1600 mg/kg
LC50 inhalation rat (mg/l)	52000 mg/m³
ATE (oral)	1600.000 mg/kg body weight
ATE (dermal)	1100.000 mg/kg body weight
ATE (vapors)	52.000 mg/l/4h
ATE (dust, mist)	52.000 mg/l/4h

BENZENE-D6 (D, 99.5%) (1076-43-3)	
LD50 oral rat	2990 mg/kg
LD50 dermal rabbit	8263 mg/kg
LC50 inhalation rat (mg/l)	44700 mg/m³ female - 4 h
ATE (oral)	2990.000 mg/kg body weight
ATE (dermal)	8263.000 mg/kg body weight
ATE (vapors)	44.700 mg/l/4h
ATE (dust, mist)	44.700 mg/l/4h

PYRENE (D10, 98%) (1718-52-1)		
LD50 oral rat	2700 mg/kg	
LC50 inhalation rat (mg/l)	170 mg/m³	

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)	
LD50 oral rat	75.0 mg/kg
LD50 dermal rabbit	90.0 mg/kg
LC50 inhalation rat (mg/l)	330 mg/m³ 4 h
ATE (oral)	100.000 mg/kg body weight
ATE (dermal)	50.000 mg/kg body weight
ATE (gases)	10.000 ppmV/4h
ATE (vapors)	0.050 mg/l/4h
ATE (dust, mist)	0.005 mg/l/4h

04/09/2015 EN (English US) 8/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Skin corrosion/irritation : Causes skin irritation.

Skin - rabbit - Skin irritation

Serious eye damage/irritation : Causes serious eye irritation.

Eyes - rabbit - Eye irritation

Respiratory or skin sensitization : Not available

No data available

Germ cell mutagenicity : May cause genetic defects.

Carcinogenicity : May cause cancer.

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : May cause respiratory irritation. May cause drowsiness or dizziness.

No data available

Specific target organ toxicity (repeated

exposure)

: May cause damage to organs (blood, eye, bone marrow, genital organs) through prolonged or

repeated exposure.

No data available

Aspiration hazard : May be fatal if swallowed and enters airways.

Potential Adverse human health effects and

symptoms

: Harmful if swallowed.

IARC group : 1

Symptoms/injuries after inhalation : May cause cancer by inhalation.

Symptoms/injuries after skin contact : Causes skin irritation.
Symptoms/injuries after eye contact : Causes eye irritation.

Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

BASE NEUTRALS MIXTURE-6.2	
LC50 fish 1	5.90 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h
LC50 other aquatic organisms 1	230 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	22.0 mg/l Daphnia magna (Water flea) - 48 h
LC50 fish 2	15 - 32 mg/l Pimephales promelas (Fathead minnow) - 96 h
LC50 other aquatic organisms 2	9.2 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	29.0 mg/l Pseudokirchneriella subcapitata (Green algae) - 72 h
LOEC (acute)	17.2 mg/l Pimephales promelas (Fathead minnow) - 7 d
NOEC (chronic)	10.2 mg/l Pimephales promelas (Fathead minnow) - 7 d

CHRYSENE (D12, 98%) (1719-03-5) EC50 Daphnia 1 1.90 mg/l Daphni magna (Water flea) - 2 h

NAPHTHALENE (D8, 99%) (1146-65-2)	
LC50 fish 1	0.9 - 9.8 mg/l Oncorhynchus mykiss (rainbow trout) - 96 h
LC50 other aquatic organisms 1	1 - 6.5 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	1 - 3.4 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	33 mg/l 24 h
LOEC (acute)	3.2 mg/l 3 d
NOEC (acute)	1.8 mg/l 3 d

METHYLENE CHLORIDE-D2 (D, 99.8%) (1665-00-5)	
LC50 fish 1	193.00 mg/l Pimephales promelas (fathead minnow) - 96 h
EC50 Daphnia 1	1682.00 mg/l Daphnia magna (Water flea) - 48 h
NOEC (chronic)	130 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h

BENZENE-D6 (D, 99.5%) (1076-43-3)	
LC50 fish 1	5.90 mg/l Oncorhynchus mykiss (Rainbow trout) - 96 h
LC50 other aquatic organisms 1	230 mg/l Lepomis macrochirus (Bluegill) - 96 h
EC50 Daphnia 1	22.0 mg/l Daphnia magna (Water flea) - 48 h
LC50 fish 2	15 - 32 mg/l Pimephales promelas (Fathead minnow) - 96 h
LC50 other aquatic organisms 2	9.2 mg/l Daphnia magna (Water flea) - 48 h
ErC50 (algae)	29.0 mg/l Pseudokirchneriella subcapitata (Green algae) - 72 h
LOEC (acute)	17.2 mg/l Pimephales promelas (Fathead minnow) - 7 d
NOEC (chronic)	10.2 mg/l Pimephales promelas (Fathead minnow) - 7 d

04/09/2015 EN (English US) 9/16

Safety Data Sheet according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ACENAPHTHENE (D10, 99%) (15067-26-2)		
LC50 fish 1	2.2 - 3.1 mg/l Cyprinodon variegatus (sheepshead minnow) - 96 h	
EC50 Daphnia 1	1.27 - 3.45 mg/l Daphnia magna (Water flea) - 48 h	
ErC50 (algae)	0.52 - 0.53 mg/l Pseudokirchneriella subcapitata (green algae) - 96 h	
BIS(2-CHLOROETHYL)ETHER (D8, 98%) (939	252-02-4\	
LC50 fish 1	600.00 mg/l - 96 h, Lepomis macrochirus (Bluegill) -	
EC50 Daphnia 1	240.00 mg/l - 48 h, Daphnia magna (Water flea) -	
'	240.00 mg/r 40 m, Daprima magna (water nea)	
ANTHRACENE (D10, 98%) (1719-06-8)		
LC50 fish 1	0.001 mg/l Lepomis macrochirus (Bluegill) - 96.0 h	
EC50 Daphnia 1	0.10 mg/l Daphnia magna (Water flea) - 48 h	
12.2. Persistence and degradability		
BASE NEUTRALS MIXTURE-6.2	May equal long term adverse effects in the environment	
Persistence and degradability	May cause long-term adverse effects in the environment.	
CHRYSENE (D12, 98%) (1719-03-5)		
Persistence and degradability	Not available.	
BENZO[K]FLUORANTHENE (D12, 98%) (939	52-01-3)	
Persistence and degradability	Not available.	
NAPHTHALENE (D8, 99%) (1146-65-2)		
Persistence and degradability	Biodegradability: Result: - Not readily biodegradable.	
<i>5</i> ,		
METHYLENE CHLORIDE-D2 (D, 99.8%) (1665	·	
Persistence and degradability	Result: < 30.0 % - Not readily biodegradable.	
BENZENE-D6 (D, 99.5%) (1076-43-3)		
Persistence and degradability	Biodegradability Result: - Readily biodegradable.	
ACENAPHTHENE (D10, 99%) (15067-26-2)		
Persistence and degradability	Not available.	
• •		
FLUORENE (D10, 98%) (81103-79-9)	Net evellelle	
Persistence and degradability	Not available.	
PYRENE (D10, 98%) (1718-52-1)		
Persistence and degradability	Not available.	
BIS(2-CHLOROETHYL)ETHER (D8, 98%) (939	952-02-4)	
Persistence and degradability	Not available.	
ANTHRACENE (D10, 98%) (1719-06-8)		
Persistence and degradability	Not available.	
·	Test available.	
12.3. Bioaccumulative potential		
CHRYSENE (D12, 98%) (1719-03-5)		
Log Pow	5.73	
Bioaccumulative potential	Not available.	
BENZO[K]FLUORANTHENE (D12, 98%) (939	52-01-3)	
Bioaccumulative potential	Not available.	
,	The standards	
NAPHTHALENE (D8, 99%) (1146-65-2)		
Log Pow	3.30	
Bioaccumulative potential	Bioaccumulation: Fish- Bioconcentration factor (BCF): 427 - 1,158.	
METHYLENE CHLORIDE-D2 (D, 99.8%) (1665		
Bioaccumulative potential	Not available.	
ACENAPHTHENE (D10, 99%) (15067-26-2)		
BCF fish 1	Lepomis macrochirus (Bluegill) - 28d	
Bioconcentration factor (BCF REACH)	387	
Log Pow	3.39 - 4.19	
FLUORENE (D10, 98%) (81103-79-9)		
Bioconcentration factor (BCF REACH)	512	
Bioaccumulative potential	Bioaccumulative Potential: Oncorhynchus mykiss (rainbow trout) - 24h.	
Diodoodinadayo potonda	Disassariadaro i Storida. Shooriyiicida iliyidaa (talibow tiodi) - 241.	

04/09/2015 EN (English US) 10/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

ccording to Regulation (EC) No. 453/2010 and accord	ling to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations	
PYRENE (D10, 98%) (1718-52-1)		
Bioconcentration factor (BCF REACH)	4810	
ANTHRACENE (D10, 98%) (1719-06-8)		
Bioconcentration factor (BCF REACH)	649	
Log Pow	4.45	
Bioaccumulative potential	Bioaccumulation Pimephales promelas (fathead minnow) - 42 d.	
12.4. Mobility in soil		
BASE NEUTRALS MIXTURE-6.2		
Ecology - soil	Not available.	
CHRYSENE (D12, 98%) (1719-03-5)		
Ecology - soil	Not available.	
BENZO[K]FLUORANTHENE (D12, 98%) (93	3952-01-3)	
Ecology - soil	Not available.	
NAPHTHALENE (D8, 99%) (1146-65-2)		
Ecology - soil	Not available.	
METHYLENE CHLORIDE-D2 (D, 99.8%) (16	665-00-5)	
Ecology - soil	Not available.	
BENZENE-D6 (D, 99.5%) (1076-43-3)		
Ecology - soil	Not available.	
ACENAPHTHENE (D10, 99%) (15067-26-2)		
Ecology - soil	Not available.	
FLUORENE (D10, 98%) (81103-79-9)		
Ecology - soil	Not available.	
PYRENE (D10, 98%) (1718-52-1)		
Ecology - soil	Not available.	
BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)		
Ecology - soil	Not available.	
ANTHRACENE (D10, 98%) (1719-06-8)		
Ecology - soil	Not available.	

12.5. Results of PBT and vPvB assessment

ANTHRACENE (D10, 98%) (1719-06-8)

This substance/mixture meets the PBT criteria of REACH, annex XIII.

This substance/mixture does not meet the vPvB criteria of REACH, annex XIII.

12.6. Other adverse effects

Other adverse effects : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Toxic to aquatic life.

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.

Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.

Additional information : Handle empty containers with care because residual vapors are flammable.

SECTION 14: Transport information

In accordance with ADR / RID / ADNR / IMDG / ICAO / IATA

14.1. UN number

UN-No.(DOT) : 1114 DOT NA no. UN1114

14.2. UN proper shipping name

DOT Proper Shipping Name : Benzene

Department of Transportation (DOT) Hazard : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120

Classes

04/09/2015 EN (English US) 11/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : II - Medium Danger

DOT Special Provisions (49 CFR 172.102) : IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). 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.

T4 - 2.65 178.274(d)(2) Normal...... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / 1 + a (tr - tf) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 202
DOT Packaging Bulk (49 CFR 173.xxx) : 242

14.3. Additional information

Other information : No supplementary information available.

Overland transport

Packing group (ADR) : II

Class (ADR) : 3 - Flammable liquid

Hazard identification number (Kemler No.) : 33 Classification code (ADR) : F1

Danger labels (ADR) : 3 - Flammable liquids



Orange plates



Tunnel restriction code : D/E
Limited quantities (ADR) 1L
EAC : 3WE
APP : A(fl)
Excepted quantities (ADR) : E2

Transport by sea

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25

passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

DOT Vessel Stowage Other : 40 - Stow "clear of living quarters"

MFAG-No : 130

Air transport

DOT Quantity Limitations Passenger aircraft/rail : 5 L

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

Civil Aeronautics Law : Flammable liquids

04/09/2015 EN (English US) 12/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Environmental hazards

Dangerous for the environment



Other information : No supplementary information available.

Special precautions for user 14.5.

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

BASE NEUTRALS WILLTOKE-0.2				
Listed on SADA Section 212 (Specific toxic chemical listing				

SARA Section 311/312 Hazard Classes Fire hazard

Immediate (acute) health hazard

Delayed (chronic) health hazard

CHRYSENE (D12, 98%) (1719-03-5)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes Delayed (chronic) health hazard

BENZO[K]FLUORANTHENE (D12, 98%) (93952-01-3)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard

Delayed (chronic) health hazard

NAPHTHALENE (D8, 99%) (1146-65-2)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes

Immediate (acute) health hazard Delayed (chronic) health hazard

METHYLENE CHLORIDE-D2 (D, 99.8%) (1665-00-5)

SARA Section 311/312 Hazard Classes Immediate (acute) health hazard Delayed (chronic) health hazard

BENZENE-D6 (D, 99.5%) (1076-43-3)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes Fire hazard

Immediate (acute) health hazard Delayed (chronic) health hazard

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)

Listed on SARA Section 302 (Specific toxic chemical listings)

Listed on SARA Section 313 (Specific toxic chemical listings)

SARA Section 311/312 Hazard Classes Fire hazard

Immediate (acute) health hazard Delayed (chronic) health hazard

15.2. International regulations

CANADA

BASE NEUTRALS MIXTURE-6.2

Listed on the Canadian DSL (Domestic Substances List) inventory.

CHRYSENE (D12, 98%) (1719-03-5)

Listed on the Canadian DSL (Domestic Substances List) inventory.

BENZO[K]FLUORANTHENE (D12, 98%) (93952-01-3)

Not listed on the Canadian DSL (Domestic Substances List) inventory.

NAPHTHALENE (D8, 99%) (1146-65-2)

Listed on the Canadian DSL (Domestic Substances List) inventory.

04/09/2015 EN (English US) 13/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

BENZENE-D6 (D, 99.5%) (1076-43-3)

Listed on the Canadian DSL (Domestic Substances List) inventory.

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)

Listed on the Canadian DSL (Domestic Substances List) inventory.

15.2.1. National regulations

No additional information available

15.3. US State regulations

BASE NEUTRALS MIXTURE-6.2()		
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 WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.	

METHYLENE CHLORIDE-D2 (D, 99.8%) (1665-00-5)						
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 significance risk level (NSRL)		
Yes						

CHRYSENE (D12, 98%) (1719-03-5)

- 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

WARNING! This product contains a chemical known by the state of California to cause cancer.

BENZO[K]FLUORANTHENE (D12, 98%) (93952-01-3)

- 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

WARNING! This product contains a chemical known by the state of California to cause cancer.

NAPHTHALENE (D8, 99%) (1146-65-2)

- 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

WARNING! This product contains a chemical known by the state of California to cause cancer.

METHYLENE CHLORIDE-D2 (D, 99.8%) (1665-00-5)

- 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

WARNING! This product contains a chemical known by the state of California to cause cancer.

BENZENE-D6 (D, 99.5%) (1076-43-3)

- 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

WARNING! This product contains a chemical known by the state of California to cause cancer, birth defects or other reproductive harm.

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)

- U.S. Massachusetts Right To Know List
- U.S. Pennsylvania RTK (Right to Know) List

04/09/2015 EN (English US) 14/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

BIS(2-CHLOROETHYL)ETHER (D8, 98%) (93952-02-4)

U.S. - New Jersey - Right to Know Hazardous Substance List WARNING! This product contains a chemical known by the state of California to cause cancer.

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::

swallowed

04/09/2015 EN (English US) 15/16

Safety Data Sheet

according to Regulation (EC) No. 453/2010 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

R45	May cause cancer	
R46	May cause heritable genetic damage	
R49	May cause cancer by inhalation	
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment	
R51	Toxic to aquatic organisms	
R65	Harmful: may cause lung damage if swallowed	
R68	Possible risk of irreversible effects	
F	Highly flammable	
N	Dangerous for the environment	
Т	Toxic	
T+	Very toxic	
Xi	Irritant	
Xn	Harmful	

NFPA health hazard : 2 - Intense or continued exposure could cause temporary

incapacitation or possible residual injury unless prompt

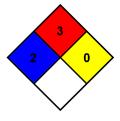
medical attention is given.

NFPA fire hazard : 3 - Liquids and solids that can be ignited under almost all

ambient conditions.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions,

and are not reactive with water.



HMIS III Rating

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

Flammability : 3 Serious 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

04/09/2015 EN (English US) 16/16