SAFETY DATA SHEET according to the OSHA Hazard Communication Standard

Version 6.19
Revision Date 07/22/2026
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SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : EPA 8270 Semivolatile Internal Standard Mix

Product Number : CRM48902
Brand : Supelco

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

Identified uses : Laboratory chemicals, Synthesis of substances

Restrictions on use : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space

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vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

1.3 Details of the supplier of the safety data sheet

Company	:	Sigma-Aldrich Inc. 3050 SPRUCE ST ST. LOUIS MO 63103 UNITED STATES
Telephone	:	+1 314 771-5765
Fax	:	+1 800 325-5052

1.4 Emergency telephone number

Emergency Phone #	:	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Skin irritation	:	Category 2
Eye irritation	:	Category 2A
Carcinogenicity	:	Category 1B
Specific target organ toxicity - single exposure	:	Category 3 (Central nervous system)
Short-term (acute) aquatic hazard	:	Category 2
Long-term (chronic) aquatic hazard	:	Category 2

Other hazards

None known.

GHS label elements

Hazard pictograms :



Signal word	:	Danger
Hazard statements	:	H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.

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H350 May cause cancer.
H411 Toxic to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing mist or vapours.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
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.
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.
P391 Collect spillage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.

Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

CAS-No. : Not Assigned

Components

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Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
Dichloromethane	75-09-2*	>= 80 - <= 100	TSC
Naphthalene-d8	1146-65-2*	>= 0.1 - <= 1	TSC
Phenanthrene-D10	1517-22-2*	>= 0.1 - <= 1	TSC
Chrysene-D12	1719-03-5*	>= 0.1 - <= 1	TSC
1,4-dichlorobenzene-d_4	3855-82-1*	>= 0.1 - <= 1	TSC
Acenaphthene-D10	15067-26-2*	>= 0.1 - <= 1	TSC

* Indicates that the identifier is a CAS No.
TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Show this safety data sheet to the doctor in attendance.
If inhaled	:	After inhalation: fresh air. Call in physician.
In case of skin contact	:	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.
In case of eye contact	:	After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.
If swallowed	:	After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.
Most important symptoms and effects, both acute and delayed	:	The most important known symptoms and effects are described in the labelling (see section 2 GHS label elements) and/or in section 11
Protection of first-aiders	:	For personal protection see section 8.
Notes to physician	:	No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Foam Carbon dioxide (CO2) Dry powder

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Unsuitable extinguishing media	:	For this substance/mixture no limitations of extinguishing agents are given.
Specific hazards during fire fighting	:	Mixture with combustible ingredients. Development of hazardous combustion gases or vapours possible in the event of fire.
Hazardous combustion products	:	Carbon oxides Hydrogen chloride gas
Specific extinguishing methods	:	No data available
Further information	:	Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
Special protective equipment for fire-fighters	:	Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Advice for non-emergency personnel: Do not breathe vapours, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: Wear appropriate personal protective equipment, as indicated in Section 8.
Environmental precautions	:	Do not let product enter drains.
Methods and materials	:	Cover drains. Collect, bind, and pump off spills.

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for containment and cleaning up	Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2 GHS label elements

Advice on safe handling	:	Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.
Further information on storage conditions	:	Tightly closed. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorised persons.
Storage class	:	6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects
Recommended storage temperature	:	Recommended storage temperature see product label.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Dichloromethane	75-09-2	TWA	50 ppm	ACGIH
		PEL	25 ppm	OSHA CARC
		STEL	125 ppm	OSHA CARC
		ECEL-TWA	2 ppm 8 mg/m3	TSCA ECEL
		EPA STEL	16 ppm 57 mg/m3	TSCA ECEL
Naphthalene-d8	1146-65-2	TWA	10 ppm	ACGIH
		TWA	10 ppm 50 mg/m3	NIOSH REL
		ST	15 ppm 75 mg/m3	NIOSH REL
		TWA	10 ppm 50 mg/m3	OSHA Z-1

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Phenanthrene-D10	1517-22-2	TWA	0.2 mg/m3	OSHA Z-1
		TWA	0.1 mg/m3	NIOSH REL
Chrysene-D12	1719-03-5	TWA	0.2 mg/m3	OSHA Z-1
		TWA	0.1 mg/m3	NIOSH REL
1,4-dichlorobenzene-d_4	3855-82-1	TWA	10 ppm	ACGIH
		TWA	75 ppm 450 mg/m3	OSHA Z-1

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Dichloromethane	75-09-2	Dichloromethane	Urine	End of shift (As soon as possible after exposure ceases)	0.3 mg/l	ACGIH BEI
Phenanthrene-D10	1517-22-2	1-Hydroxypyrene	Urine	End of shift at end of workweek	2.5 µg/l	ACGIH BEI
Chrysene-D12	1719-03-5	1-Hydroxypyrene	Urine	End of shift at end of workweek	2.5 µg/l	ACGIH BEI
Acenaphthene-D10	15067-26-2	1-Hydroxypyrene	Urine	End of shift at end of workweek	2.5 µg/l	ACGIH BEI

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

Recommended Filter : Filter type ABEK

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type:

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Remarks	:	required
Eye protection	:	Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses
Skin and body protection	:	protective clothing
Hygiene measures	:	Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	No data available
Odour	:	No data available
Odour Threshold	:	No data available
pH	:	No data available
Melting point	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Flammability (liquids)	:	No data available
Burning rate	:	No data available
Upper explosion limit /	:	No data available

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Upper flammability limit		
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	No data available
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	No data available
Water solubility	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Explosive properties	:	Not classified as explosive.
Oxidizing properties	:	none
Particle characteristics Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No data available
Chemical stability	:	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	:	No data available
Conditions to avoid	:	no information available
Incompatible materials	:	Strong oxidizing agents

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Hazardous decomposition products	:	For Hazardous combustion products in the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Mixture

Acute toxicity
Oral: No data available
Symptoms: Possible symptoms:, mucosal irritations
Dermal: No data available

Skin corrosion/irritation
Remarks: Mixture causes skin irritation.

Serious eye damage/eye irritation
Remarks: Mixture causes serious eye irritation.

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Possible carcinogen.

IARC:	2A - Group 2A: Probably carcinogenic to humans (Dichloromethane)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Naphthalene-d8)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (Chrysene-D12)
IARC:	2B - Group 2B: Possibly carcinogenic to humans (1,4-dichlorobenzene-d_4)
NTP:	RAHC - Reasonably anticipated to be a human carcinogen (Dichloromethane)
NTP:	RAHC - Reasonably anticipated to be a human carcinogen (Naphthalene-d8)
NTP:	RAHC - Reasonably anticipated to be a human carcinogen (1,4-dichlorobenzene-d_4)
OSHA:	OSHA specifically regulated carcinogen (Dichloromethane)
OSHA:	OSHA specifically regulated carcinogen (Chrysene-D12)

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Mixture may cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

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11.2 Additional Information

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

Components

Dichloromethane

Acute toxicity
LD50 Oral - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Mouse - 4 h - 86 mg/l - vapour
Remarks: (ECHA)
Symptoms: Possible damages:, mucosal irritations
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation
Skin - Rabbit
Result: Irritations - 4 h
(OECD Test Guideline 404)
Remarks: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product.

Serious eye damage/eye irritation
Eyes - Rabbit
Result: Eye irritation
Remarks: (ECHA)
Remarks: Risk of corneal clouding.

Respiratory or skin sensitization
Local lymph node assay (LLNA) - Mouse
Result: negative
(OECD Test Guideline 429)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster ovary cells
Result: positive
Test Type: Ames test
Test system: Salmonella typhimurium
Result: positive
Method: OECD Test Guideline 474
Species: Mouse - male and female - Bone marrow

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Result: negative

Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
Inhalation - May cause drowsiness or dizziness. - Central nervous system
Acute inhalation toxicity - Possible damages:, mucosal irritations

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Naphthalene-d8

Acute toxicity
Oral: No data available
LC50 Inhalation - Rat - male and female - 4 h - > 0.4 mg/l - vapour
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - 20,000 mg/kg
Remarks: (RTECS)

Skin corrosion/irritation
Skin - Rabbit
Result: No skin irritation - 24 h
Remarks: (ECHA)

Serious eye damage/eye irritation
Eyes - Rabbit
Result: No eye irritation - 24 h
Remarks: (ECHA)

Respiratory or skin sensitization
Maximisation Test - Guinea pig
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity
Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Chinese hamster ovary cells
Result: positive
Test Type: Ames test
Test system: Salmonella typhimurium
Result: negative
Method: OECD Test Guideline 486
Species: Rat - male - Liver cells
Result: negative
Method: US-EPA
Species: Mouse - male and female - Bone marrow
Result: negative
Remarks: (ECHA)

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Carcinogenicity
Suspected of causing cancer.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure

Aspiration hazard
No data available

Phenanthrene-D10

Acute toxicity
LD50 Oral - Mouse - 700 mg/kg
Remarks: (RTECS)
The value is given in analogy to the following substances: phenanthrene
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

Chrysene-D12

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

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Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
In vitro tests showed mutagenic effects

Carcinogenicity
Possible human carcinogen

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

1,4-dichlorobenzene-d_4

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Limited evidence of carcinogenicity in animal studies

Reproductive toxicity
No data available
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

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Aspiration hazard
No data available

Acenaphthene-D10

Acute toxicity
LD50 Oral - Rat - > 16,000 mg/kg
Remarks: (IUCLID)
The value is given in analogy to the following substances: acenaphthene
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Dichloromethane:

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 193.00 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)
Toxicity to daphnia and	:	LC50 (Daphnia magna (Water flea)): 27 mg/l

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other aquatic invertebrates		End point: mortality Exposure time: 48 h Test Type: static test Method: US-EPA
Toxicity to fish (Chronic toxicity)	:	LC50 (Pimephales promelas (fathead minnow)): 471 mg/l End point: mortality Exposure time: 8 d Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA)
Toxicity to microorganisms	:	EC50 (activated sludge): 2,590 mg/l Exposure time: 40 min Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 209

Naphthalene-d8:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1.6 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 2.16 mg/l End point: Immobilization Exposure time: 48 h Test Type: static test Analytical monitoring: yes Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 2.96 mg/l Exposure time: 4 h Test Type: static test Analytical monitoring: yes Method: US-EPA Remarks: (ECHA)
Toxicity to fish (Chronic toxicity)	:	LC50 (Oncorhynchus kisutch (coho salmon)): 2.1 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Analytical monitoring: yes Remarks: (ECHA) NOEC (Oncorhynchus kisutch (coho salmon)): 0.37

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mg/l
End point: Growth inhibition
Exposure time: 40 Days
Test Type: flow-through test
Analytical monitoring: yes
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia pulex (Water flea)): 0.59 mg/l End point: mortality Exposure time: 125 d Test Type: static test Analytical monitoring: yes Remarks: (ECHA)

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects.

Phenanthrene-D10:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 0.234 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: phenanthrene
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 0.212 mg/l End point: mortality Exposure time: 48 h Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: phenanthrene
M-Factor (Acute aquatic toxicity)	:	1
Toxicity to fish (Chronic toxicity)	:	NOEC (Oncorhynchus mykiss (rainbow trout)): 0.005 mg/l End point: mortality Exposure time: 90 d Test Type: flow-through test Remarks: (ECOTOX Database) The value is given in analogy to the following

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substances:
The value is given in analogy to the following substances: phenanthrene

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 0.048 mg/l End point: mortality Exposure time: 21 d Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: phenanthrene
M-Factor (Chronic aquatic toxicity)	:	10

Chrysene-D12:

Toxicity to fish	:	LC50 (Fish): < 1 mg/l Exposure time: 96 h Remarks: (in analogy to similar products) The value is given in analogy to the following substances: chrysene
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1.90 mg/l Exposure time: 2 h Remarks: (in analogy to similar products) The value is given in analogy to the following substances: chrysene
M-Factor (Acute aquatic toxicity)	:	10

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life. The value is given in analogy to the following substances: chrysene
Chronic aquatic toxicity	:	Very toxic to aquatic life with long lasting effects. The value is given in analogy to the following substances: chrysene

1,4-dichlorobenzene-d_4:

Toxicity to fish	:	Remarks: No data available
M-Factor (Acute aquatic toxicity)	:	10
M-Factor (Chronic aquatic toxicity)	:	10

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Acenaphthene-D10:

Toxicity to fish	:	LC50 (Salmo trutta): 0.58 mg/l End point: mortality Exposure time: 96 h Test Type: flow-through test Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: acenaphthene
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 3.45 mg/l Exposure time: 48 h Remarks: (IUCLID) The value is given in analogy to the following substances: The value is given in analogy to the following substances: acenaphthene
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 0.52 - 0.53 mg/l Exposure time: 96 h Remarks: (ECOTOX Database) The value is given in analogy to the following substances: The value is given in analogy to the following substances: acenaphthene
M-Factor (Acute aquatic toxicity)	:	1
M-Factor (Chronic aquatic toxicity)	:	1

Persistence and degradability

Components:

Dichloromethane:

Biodegradability	:	aerobic Inoculum: activated sludge, non-adapted Concentration: 5 mg/l Result: Readily biodegradable. Biodegradation: 68 % Exposure time: 28 d Method: OECD Test Guideline 301D GLP: yes

Naphthalene-d8:

Biodegradability	:	aerobic Inoculum: activated sludge, non-adapted

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Concentration: 100 mg/l
Result: Not readily biodegradable.
Biodegradation: 2 %
Exposure time: 28 d
Method: OECD Test Guideline 302C

Bioaccumulative potential

Components:

Dichloromethane:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 2 - 5.4
Exposure time: 6 Weeks
Concentration: 250 µg/l
Method: OECD Test Guideline 305
GLP: yes

Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 6 - 40
Exposure time: 6 Weeks
Concentration: 25 µg/l
Method: OECD Test Guideline 305
GLP: yes

Partition coefficient: n-octanol/water : log Pow: 1.25 (68 °F / 20 °C)
pH: 7
Method: (experimental)
Remarks: Bioaccumulation is not expected.

Naphthalene-d8:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 36.5 - 168
Exposure time: 56 d
Temperature: 77 °F / 25 °C
Method: OECD Test Guideline 305
Remarks: Bioaccumulation is unlikely.

Phenanthrene-D10:

Partition coefficient: n-octanol/water : log Pow: 4.57
Remarks: Potential bioaccumulation

Chrysene-D12:

Partition coefficient: n-octanol/water : log Pow: 5.73
Remarks: Potential bioaccumulation

1,4-dichlorobenzene-d_4:

Partition coefficient: n-octanol/water : log Pow: ca. 3.37 (ca. 77 °F / 25 °C)
pH: 7

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Acenaphthene-D10:

Bioaccumulation	:	Species: Lepomis macrochirus (Bluegill) Bioconcentration factor (BCF): 387 Exposure time: 28 d Concentration: 0.00894 mg/l Remarks: The value is given in analogy to the following substances: The value is given in analogy to the following substances: acenaphthene

Mobility in soil

No data available

Other adverse effects

Components:

Dichloromethane:

Results of PBT and vPvB assessment	:	Not persistent, bioaccumulative, and toxic (PBT). Not very persistent and very bioaccumulative (vPvB).
	:	Substance does not meet the criteria for PBT or vPvB according to Regulation (EC) No 1907/2006, Annex XIII.

Phenanthrene-D10:

Additional ecological information	:	Discharge into the environment must be avoided.

Acenaphthene-D10:

Additional ecological information	:	Discharge into the environment must be avoided.

Endocrine disrupting properties

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

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IATA-DGR

UN/ID No.	:	UN 1593
Proper shipping name	:	Dichloromethane
Class	:	6.1
Packing group	:	III
Labels	:	Division 6.1 - Toxic substances
Packing instruction (cargo aircraft)	:	663
Packing instruction (passenger aircraft)	:	655

IMDG-Code

UN number	:	UN 1593
Proper shipping name	:	DICHLOROMETHANE
Class	:	6.1
Packing group	:	III
Labels	:	6.1
EmS Code	:	F-A, S-A
Marine pollutant	:	no

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 1593
Proper shipping name	:	Dichloromethane
Class	:	6.1
Packing group	:	III
Labels	:	Division 6.1 - Toxic substances
ERG Code	:	160
Marine pollutant	:	no
Poison Inhalation Hazard	:	No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Dichloromethane	75-09-2	1000	1010
1,4-dichlorobenzene-d_4	3855-82-1	100	100 (D027)

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SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute Health Hazard
Chronic Health Hazard

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

Dichloromethane	75-09-2	>= 90 - <= 100 %
Naphthalene-d8	1146-65-2	>= 0.1 - < 1 %
Chrysene-D12	1719-03-5	>= 0.1 - < 1 %
1,4-dichlorobenzene-d_4	3855-82-1	>= 0.1 - < 1 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

Naphthalene-d8	1146-65-2	>= 0.1 - < 1 %
1,4-dichlorobenzene-d_4	3855-82-1	>= 0.1 - < 1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

Naphthalene-d8	1146-65-2	>= 0.1 - < 1 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

Dichloromethane	75-09-2	>= 90 - <= 100 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

Dichloromethane	75-09-2	>= 90 - <= 100 %

US State Regulations

Massachusetts Right To Know

Dichloromethane	75-09-2
Chrysene-D12	1719-03-5
1,4-dichlorobenzene-d_4	3855-82-1

Pennsylvania Right To Know

Dichloromethane	75-09-2
Naphthalene-d8	1146-65-2
Perylene-D12	1520-96-3
Phenanthrene-D10	1517-22-2
Chrysene-D12	1719-03-5

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1,4-dichlorobenzene-d_4	3855-82-1
Acenaphthene-D10	15067-26-2

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Dichloromethane	75-09-2

Washington Chemicals of High Concern

Dichloromethane	75-09-2

California Prop. 65

WARNING: This product can expose you to chemicals including Dichloromethane, Naphthalene-d8, Perylene-D12, Phenanthrene-D10, Chrysene-D12, 1,4-dichlorobenzene-d_4, Acenaphthene-D10, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov. **The components of this product are reported in the following inventories:**

US TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

After February 3, 2025, this chemical substance (as defined in TSCA section 3(2))/product cannot be distributed in commerce to retailers. After January 28, 2026, this chemical substance (as defined in TSCA section 3(2))/product is and can only be distributed in commerce or processed with a concentration of methylene chloride equal to or greater than 0.1% by weight for the following purposes: (1) Processing as a reactant; (2) Processing for incorporation into a formulation, mixture, or reaction product; (3) Processing for repackaging; (4) Processing for recycling; (5) Industrial or commercial use as a laboratory chemical; (6) Industrial or commercial use as a bonding agent for solvent welding; (7) Industrial and commercial use as a paint and coating remover from safety critical, corrosion-sensitive components of aircraft and spacecraft; (8) Industrial and commercial use as a processing aid; (9) Industrial and commercial use for plastic and rubber products manufacturing; (10) Industrial and commercial use as a solvent that becomes part of a formulation or mixture, where that formulation or mixture will be used inside a manufacturing process, and the solvent (methylene chloride) will be reclaimed; (11) Industrial and commercial use in the refinishing for wooden furniture, decorative pieces, and architectural fixtures of artistic, cultural or historic value until May 8, 2029; (12) Industrial and commercial use in adhesives and sealants in aircraft, space vehicle, and turbine applications for structural and safety critical non-structural applications until May 8, 2029; (13) Disposal; and (14) Export.

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

Dichloromethane	75-09-2
1,4-dichlorobenzene-d_4	3855-82-1

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SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	:	ACGIH - Biological Exposure Indices (BEI)
NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA CARC	:	OSHA Specifically Regulated Chemicals/Carcinogens
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TSCA ECEL	:	TSCA Existing Chemical Exposure Limit
ACGIH / TWA	:	8-hour, time-weighted average
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	:	STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
OSHA CARC / PEL	:	Permissible exposure limit (PEL)
OSHA CARC / STEL	:	Excursion limit
OSHA Z-1 / TWA	:	8-hour time weighted average
TSCA ECEL / ECEL-TWA	:	Existing Chemical Exposure List (TWA)
TSCA ECEL / EPA STEL	:	EPA STEL

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and

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Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.
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