



PXB CALIBRATION SOLUTION CS1 (UNLABELED/¹³C12, 99%)

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: 03/10/2017

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Version: 2.1

ECB-5390-CS1

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

1.1. Product identifier

Product form : Mixtures
Product name : PXB CALIBRATION SOLUTION CS1 (UNLABELED/¹³C12, 99%)
Product code : ECB-5390-CS1

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]

| | |
|----------------------------------|------|
| Flam. Liq. 3 | H226 |
| Acute Tox. 4 (Inhalation:vapour) | H332 |
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2 | H319 |
| STOT SE 3 | H336 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

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

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

R10
Xn; R20
Xn; R65
Xi; R36/37/38
N; R50/53

Full text of R-phrases: see section 16

GHS-US classification

| | |
|----------------------------------|------|
| Flam. Liq. 3 | H226 |
| Acute Tox. 4 (Inhalation:vapour) | H332 |
| Skin Irrit. 2 | H315 |
| Eye Irrit. 2A | H319 |
| STOT SE 3 | H336 |
| Asp. Tox. 1 | H304 |
| Aquatic Acute 1 | H400 |
| Aquatic Chronic 1 | H410 |

Full text of H statements : see section 16

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Adverse physicochemical, human health and environmental effects

Central Nervous System. Flammable liquid and vapor. May cause drowsiness or dizziness. Harmful if inhaled. Causes skin irritation. Causes serious eye irritation. May be fatal if swallowed and enters airways.

2.2. Label elements

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

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness
H410 - Very toxic 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
P261 - Avoid breathing 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)



Signal word (GHS-US)

: Danger

Hazard statements (GHS-US)

: H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H336 - May cause drowsiness or dizziness
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US)

: P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking
P233 - Keep container tightly closed
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
P261 - Avoid breathing 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
P280 - Wear eye protection, face protection, protective clothing, protective gloves
P301+P310 - If swallowed: Immediately call a doctor, a POISON CENTER
P302+P352 - If on skin: Wash with plenty of water
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
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
P312 - Call a doctor, a POISON CENTER if you feel unwell

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P321 - Specific treatment (see Hazard pictograms (CLP) on this label)
P331 - 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+P364 - Take off contaminated clothing and wash it before reuse
P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Dry chemical, Water spray to extinguish
P391 - Collect spillage
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 |
|---|---|-------------|--|
| N-NONANE UNLABELED | (CAS No) 111-84-2 (EC No) 203-913-4 | 99.986496 | R10 Xn; R20 Xn; R65 Xi; R36/38 R67 |
| ISOOCTANE UNLABELED | (CAS No) 540-84-1 (EC No) 208-759-1 (EC Index No) 601-009-00-8 (REACH-no) 01-2119457965-22 | 0.013493 | Xi; R38 N; R50/53 R67 F; R11 Xn; R65 |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) | | 0.000002786 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-3,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) | | 0.000001393 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | | 0.000001393 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) | | 0.000001393 | Xn; R48/20 N; R50/53 |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) | (CAS No) 727738-81-0 (Unlabeled) | 0.000001393 | Xn; R48/21/22 N; R50/53 R64 |
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED | | 0.000000056 | Xn; R48/20 N; R50/53 R67 |
| 4'-BROMO-3,3',4,5-TETRACB UNLABELED | | 0.000000028 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3',4,5-TETRACB UNLABELED | | 0.000000028 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3,3',4-TETRACB UNLABELED | | 0.000000028 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-2,3,3',4,5-PENTACB UNLABELED | | 0.000000028 | Xn; R48/20 N; R50/53 |
| 4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED | | 0.000000028 | Xn; R48/20 N; R50/53 |

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| Name | Product identifier | % | Classification according to Regulation (EC) No. 1272/2008 [CLP] |
|---|---|-------------|--|
| N-NONANE UNLABELED | (CAS No) 111-84-2 (EC No) 203-913-4 | 99.986496 | Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 |
| ISOOCTANE UNLABELED | (CAS No) 540-84-1 (EC No) 208-759-1 (EC Index No) 601-009-00-8 (REACH-no) 01-2119457965-22 | 0.013493 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) | | 0.000002786 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) | (CAS No) 727738-81-0 (Unlabeled) | 0.000001393 | Lact., H362 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED | | 0.000000056 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3',4,5-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4,5-PENTACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

| Name | Product identifier | % | GHS-US classification |
|--|--------------------|-------------|--|
| N-NONANE UNLABELED | (CAS No) 111-84-2 | 99.986496 | Flam. Liq. 3, H226 Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H336 Asp. Tox. 1, H304 |
| ISOOCTANE UNLABELED | (CAS No) 540-84-1 | 0.013493 | Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) | | 0.000002786 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3',4,5-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

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| Name | Product identifier | % | GHS-US classification |
|---|----------------------------------|-------------|--|
| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) | | 0.000001393 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) | (CAS No) 727738-81-0 (Unlabeled) | 0.000001393 | Lact., H362 STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED | | 0.000000056 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3',4,5-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4-TETRACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-2,3,3',4,5-PENTACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |
| 4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED | | 0.000000028 | STOT RE 2, H373 Aquatic Acute 1, H400 Aquatic Chronic 1, H410 |

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 | : Call a physician immediately. |
| 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. Give oxygen or artificial respiration if necessary. |
| First-aid measures after skin contact | : Rinse skin with water/shower. Remove/Take off immediately all 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 | : Do not induce vomiting. Call a physician immediately. |

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

| | |
|--------------------------------------|---|
| Symptoms/injuries | : May cause drowsiness or dizziness. |
| Symptoms/injuries after inhalation | : Harmful if inhaled. May cause respiratory irritation. |
| Symptoms/injuries after skin contact | : Causes skin irritation. May be harmful in contact with skin. |
| Symptoms/injuries after eye contact | : Causes serious eye irritation. |
| Symptoms/injuries after ingestion | : May be fatal if swallowed and enters airways. Risk of lung edema. |

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. Alcohol resistant foam.

5.2. Special hazards arising from the substance or mixture

| | |
|-------------|---|
| Fire hazard | : Flammable liquid and vapor. |
| Reactivity | : Flammable liquid and vapor. vapors may form flammable mixture with air. |

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. |

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Wear personal protective equipment. Ventilate spillage area. No open flames, no sparks, and no smoking. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.

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

Prevent entry to sewers and public waters. Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Dike and contain spill. Dispose as hazardous waste. Comply with local regulations 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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Avoid all contact with skin, eyes, or clothing. Keep away from sources of ignition - No smoking. Do not breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). Take precautionary measures against static discharges.

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapors may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing fume, gas, mist, spray, vapors. Avoid contact with skin and eyes.

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 in a well-ventilated place. Keep container tightly closed. Keep dry. Ground/bond container and receiving equipment.

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

| PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%) | | |
|---|---|--|
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 200.00000000 ppm USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | CNS impair |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1050 mg/m ³ USA. NIOSH Recommended Exposure Limits |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 200 ppm USA. NIOSH Recommended Exposure Limits |
| USA NIOSH | Remark (NIOSH) | Central Nervous System impairment |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1050 mg/m ³ USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000 |
| USA OSHA | OSHA PEL (TWA) (ppm) | 200 ppm USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000 |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 1050 California permissible exposure limits for chemical contaminants. |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 200 ppm California permissible exposure limits for chemical contaminants. |

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| ISOCTANE UNLABELED (540-84-1) | | |
|-------------------------------|---|--|
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 300.00000000 ppm Basis: USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | Upper Respiratory Tract irritation |
| N-NONANE UNLABELED (111-84-2) | | |
| Italy - Portugal - USA ACGIH | ACGIH TWA (ppm) | 200.00000000 ppm USA. ACGIH Threshold Limit Values (TLV) |
| Italy - Portugal - USA ACGIH | Remark (ACGIH) | CNS impair |
| USA NIOSH | NIOSH REL (TWA) (mg/m ³) | 1050 mg/m ³ USA. NIOSH Recommended Exposure Limits |
| USA NIOSH | NIOSH REL (TWA) (ppm) | 200 ppm USA. NIOSH Recommended Exposure Limits |
| USA NIOSH | Remark (NIOSH) | Central Nervous System impairment |
| USA OSHA | OSHA PEL (TWA) (mg/m ³) | 1050 mg/m ³ USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000 |
| USA OSHA | OSHA PEL (TWA) (ppm) | 200 ppm USA. OSHA - Table Z-1 Limits for Air Contaminants - 1910.1000 |
| USA OSHA | OSHA PEL (Ceiling) (mg/m ³) | 1050 California permissible exposure limits for chemical contaminants |
| USA OSHA | OSHA PEL (Ceiling) (ppm) | 200 ppm California permissible exposure limits for chemical contaminants |

8.2. Exposure controls

Appropriate engineering controls

: Ensure good ventilation of the work station.

Personal protective equipment

: Protective clothing. Protective goggles. Gloves. Self-contained breathing apparatus.



Materials for protective clothing

: Wear suitable protective clothing and gloves.

Hand protection

: protective gloves.

Eye protection

: Chemical goggles or face shield. Chemical goggles or safety glasses.

Skin and body protection

: Wear suitable protective clothing, gloves and eye/face protection.

Respiratory protection

: Where exposure through inhalation may occur from use, respiratory protection equipment is recommended. Approved respirator.

Environmental exposure controls

: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

The properties listed below are for the solvent, the main component of this mixture.

| | |
|---|---|
| Physical state | : Liquid |
| Appearance | : Liquid |
| Molecular mass | : 128.3 g/mol |
| 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 | : Not applicable |
| Freezing point | : -53 °C (- 63 °F) - lit |
| Boiling point | : 151 °C (304 °F) - lit |
| Flash point | : 31 °C (87.8 °F) - closed cup |
| Auto-ignition temperature | : 205 °C (401 °F) |
| Decomposition temperature | : No data available |
| Flammability (solid, gas) | : Not applicable |
| Vapor pressure | : 5.69 hPa (4.27 mmHg) at 25 °C (77 °F) |
| Relative vapor density at 20 °C | : No data available |

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| | |
|----------------------------|---|
| Relative density | : No data available |
| Specific gravity / density | : 0.718 g/ml at 25 °C (77 °F) |
| Solubility | : Water: 0.0002 % at 25 °C (77 °F) - slightly soluble |
| Log Pow | : 5.65 |
| Log Kow | : No data available |
| Viscosity, kinematic | : 1.008 mm ² /s at 20 °C (68 °F) |
| Viscosity, dynamic | : No data available |
| Explosive properties | : No data available |
| Oxidizing properties | : No data available |
| Explosion limits | : 0.87 - 2.9 % (V) |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapor. vapors may form flammable mixture with air.

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

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Carbon oxides (CO, CO₂).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Inhalation:vapour: Harmful if inhaled.

| PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%) | |
|---|---------------------------------------|
| LC50 inhalation rat (mg/l) | 23760 mg/m ³ male - 4 h |
| ATE CLP (vapors) | 11.000 mg/l/4h |
| ATE CLP (dust, mist) | 23.760 mg/l/4h |
| Skin corrosion/irritation, Dermal, rat | Result: Skin Irritation (Draize Test) |
| Additional information | : S. Typhimurium Result: negative |

| ISOCTANE UNLABELED (540-84-1) | |
|-------------------------------|---|
| LD50 oral rat | > 5000 mg/kg (OECD Test Guideline 401) |
| LD50 dermal rabbit | > 2000 mg/kg (OECD Test Guideline 402) |
| LC50 inhalation rat (mg/l) | > 33.52 mg/l/4h (OECD Test Guideline 403) |

| N-NONANE UNLABELED (111-84-2) | |
|--|---------------------------------------|
| LC50 inhalation rat (mg/l) | 23760 mg/m ³ male - 4h |
| ATE CLP (gases) | 4500.000 ppmV/4h |
| ATE CLP (vapors) | 11.000 mg/l/4h |
| ATE CLP (dust, mist) | 1.500 mg/l/4h |
| Skin corrosion/irritation, Dermal, rat | Result: Skin Irritation (Draize Test) |
| Additional information | : S. Typhimurium Result: negative |

| | |
|--|--------------------------------------|
| Skin corrosion/irritation | : Causes skin irritation. |
| Serious eye damage/irritation | : Causes serious eye irritation. |
| Respiratory or skin sensitization | : Not classified |
| Germ cell mutagenicity | : Not classified |
| Carcinogenicity | : Not classified |
| Reproductive toxicity | : Not classified |
| Specific target organ toxicity – single exposure | : May cause drowsiness or dizziness. |

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

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N-NONANE UNLABELED (111-84-2)

| | |
|------------------|--|
| NOAEL (oral,rat) | 100 mg/kg body weight female (OECD Test Guideline 408) |
|------------------|--|

Specific target organ toxicity – repeated exposure : Not classified

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

| | |
|--------------------------|---|
| NOAEL (oral,rat,90 days) | 100 mg/kg bodyweight/day female (OECD Test Guideline 408) |
|--------------------------|---|

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

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.

Symptoms/injuries after inhalation : Harmful if inhaled. May cause respiratory irritation.

Symptoms/injuries after skin contact : Causes skin irritation. May be harmful in contact with skin.

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

Symptoms/injuries after ingestion : May be fatal if swallowed and enters airways. Risk of lung edema.

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.

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

| | |
|----------------|---|
| EC50 Daphnia 1 | 0.2 mg/l static test EC50 - Daphnia magna (Water flea) - 48 h |
|----------------|---|

N-NONANE UNLABELED (111-84-2)

| | |
|-------------|--|
| LC50 fish 1 | 0.2 mg/l Daphnia magna (Water flea) - 48 h |
|-------------|--|

12.2. Persistence and degradability

2,2',3,4,5,5'-HEXACDE (13C12, 99%) (727738-81-0 (Unlabeled))

| | |
|-------------------------------|---|
| Persistence and degradability | May cause long-term adverse effects in the environment. |
|-------------------------------|---|

12.3. Bioaccumulative potential

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

| | |
|---------------------------|--------------------------------|
| Log Pow | 5.65 |
| Bioaccumulative potential | Indication of bioaccumulation. |

ISOCTANE UNLABELED (540-84-1)

| | |
|---------|-----|
| Log Pow | 4.6 |
|---------|-----|

N-NONANE UNLABELED (111-84-2)

| | |
|---------------------------|--------------------------------|
| Log Pow | 5.65 |
| Bioaccumulative potential | Indication of bioaccumulation. |

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Disposal must be done according to official regulations. Very toxic to aquatic life with long lasting effects.

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) | : 1920 |
| DOT NA no. | UN1920 |

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14.2. UN proper shipping name

Proper Shipping Name (DOT) : Nonanes
Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Hazard labels (DOT) : 3 - Flammable liquid



Packing group (DOT) : III - Minor Danger
DOT Special Provisions (49 CFR 172.102) : B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable.
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).
T2 - 1.5 178.274(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) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 242
Marine pollutant : No



14.3. Additional information

Emergency Response Guide (ERG) Number : 128
Other information : No supplementary information available.

Overland transport

Packing group (ADR) : III
Class (ADR) : 3 - Flammable liquid
Hazard identification number (Kemler No.) : 30
Classification code (ADR) : F1
Hazard labels (ADR) : 3 - Flammable liquids



Orange plates : An orange rectangular label with a black border. It is divided into two horizontal sections. The top section contains the number "30" in black, and the bottom section contains the number "1920" in black.

Tunnel restriction code (ADR) : D/E
Limited quantities (ADR) : 5I
EAC : 3Y
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 : 128

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Air transport

DOT Quantity Limitations Passenger aircraft/rail : 60 L
(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 220 L
CFR 175.75)

Civil Aeronautics Law : Flammable liquids

14.4. Environmental hazards

Dangerous for the environment :



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

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

| | |
|--------------------------|--|
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
|--------------------------|--|

| | |
|--|--|
| 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 Immediate (acute) health hazard |
|-------------------------------------|--|

| | |
|---------------------------------------|--|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313. |
|---------------------------------------|--|

4'-BROMO-3,3',4,5-TETRACB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

4'-BROMO-2,3',4,5-TETRACB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

4'-BROMO-2,3,3',4-TETRACB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

4'-BROMO-2,3,3',4,5-PENTACB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

3,4-DICHLORO-3',4',5'-TRIBB UNLABELED

| | |
|--|---|
| SARA Section 302 Threshold Planning Quantity (TPQ) | Not subject to reporting requirements of the United States SARA Section 302 |
|--|---|

| | |
|---------------------------------------|---|
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313 |
|---------------------------------------|---|

4'-BROMO-3,3',4,5-TETRACB (13C12, 99%)

| | |
|--|---|
| 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 |
|---------------------------------------|---|

4'-BROMO-2,3',4,5-TETRACB (13C12, 99%)

| | |
|--|---|
| 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 |
|---------------------------------------|---|

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| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) | |
|---|---|
| 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 |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | |
| 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 |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) | |
| 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 |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) | |
| 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 |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) (727738-81-0 (Unlabeled)) | |
| 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 | Not subject to reporting requirements of the United States SARA Section 313. |
| ISOCTANE UNLABELED (540-84-1) | |
| 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. |
| N-NONANE UNLABELED (111-84-2) | |
| Listed on the United States TSCA (Toxic Substances Control Act) inventory | |
| EPA TSCA Regulatory Flag | T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA. |
| 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 Immediate (acute) health hazard |
| SARA Section 313 - Emission Reporting | Not subject to reporting requirements of the United States SARA Section 313. |

15.2. International regulations

CANADA

| PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%) | |
|--|--|
| Listed on the Canadian DSL (Domestic Substances List) | |
| N-NONANE UNLABELED (111-84-2) | |
| Listed on the Canadian DSL (Domestic Substances List) | |

15.2.1. National regulations

No additional information available

15.3. US State regulations

| PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%) | |
|---|--|
| U.S. - California - Proposition 65 - Carcinogens List | No |
| 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. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Massachusetts - Right To Know List U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances |

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| 4'-BROMO-3,3',4,5-TETRACB UNLABELED | | | | |
|---|---|---|---|----------------------------------|
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-2,3',4,5-TETRACB UNLABELED | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-2,3,3',4-TETRACB UNLABELED | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-2,3,3',4,5-PENTACB UNLABELED | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED | | | | |
| 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 | Yes | Yes | Yes | |
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-3,3',4,5-TETRACB (13C12, 99%) | | | | |
| 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 | |
| 4'-BROMO-2,3',4,5-TETRACB (13C12, 99%) | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) | | | | |
| 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 | |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | | | | |
| 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) |
| | | | | |

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| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) | | | | |
|--|---|---|---|----------------------------------|
| No | No | No | No | |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) | | | | |
| 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 | Yes | Yes | Yes | |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) | | | | |
| 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 | |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) (727738-81-0 (Unlabeled)) | | | | |
| 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 | |
| ISOCTANE UNLABELED (540-84-1) | | | | |
| 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 | |
| N-NONANE UNLABELED (111-84-2) | | | | |
| 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) |
| No | No | No | No | |
| 4'-BROMO-3,3',4,5-TETRACB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | | | | |
| 4'-BROMO-2,3',4,5-TETRACB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | | | | |
| 4'-BROMO-2,3,3',4-TETRACB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | | | | |
| 4'-BROMO-2,3,3',4,5-PENTACB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | | | | |
| 4'-BROMO-3,3',4,5,5'-PENTACB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List | | | | |
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED | | | | |
| State or local regulations | | | | |
| U.S. - New Jersey - Right to Know Hazardous Substance List | | | | |

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

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| |
|--|
| 3,4-DICHLORO-3',4',5'-TRIBB UNLABELED |
| U.S. - Pennsylvania - RTK (Right to Know) List |
| 4'-BROMO-3,3',4,5-TETRACB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 4'-BROMO-2,3',4,5-TETRACB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 4'-BROMO-2,3,3',4-TETRACB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 4'-BROMO-2,3,3',4,5-PENTACB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 3,4-DICHLORO-3',4',5'-TRIBB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 4'-BROMO-3,3',4,5,5'-PENTACB (13C12, 99%) |
| State or local regulations |
| U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List |
| 2,2',3,4,5,5'-HEXACDE (13C12, 99%) (727738-81-0 (Unlabeled)) |
| State or local regulations |
| U.S. - Pennsylvania - RTK (Right to Know) List U.S. - New Jersey - Right to Know Hazardous Substance List |
| ISOCTANE UNLABELED (540-84-1) |
| 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-NONANE UNLABELED (111-84-2) |
| State or local regulations |
| U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations U.S. - Massachusetts - Right To Know List 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 |

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 (Inhalation) | Acute toxicity (inhalation) Category 4 |
| Acute Tox. 4 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) 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 |
| Eye Irrit. 2 | Serious eye damage/eye irritation Category 2 |

PXB CALIBRATION SOLUTION CS1 (UNLABELED/13C12, 99%)

ECB-5390-

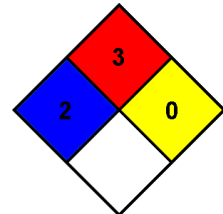
CS1

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

| | |
|---------------|---|
| Flam. Liq. 2 | Flammable liquids Category 2 |
| Flam. Liq. 3 | Flammable liquids Category 3 |
| Lact. | Reproductive toxicity (Lact.) |
| Skin Irrit. 2 | Skin corrosion/irritation Category 2 |
| STOT RE 2 | Specific target organ toxicity (repeated exposure) Category 2 |
| STOT SE 3 | Specific target organ toxicity (single exposure) Category 3 |
| H225 | Highly flammable liquid and vapor |
| H226 | Flammable liquid and vapor |
| H304 | May be fatal if swallowed and enters airways |
| H315 | Causes skin irritation |
| H319 | Causes serious eye irritation |
| H332 | Harmful if inhaled |
| H336 | May cause drowsiness or dizziness |
| H362 | May cause harm to breast-fed children |
| 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 |
| R10 | Flammable |
| R11 | Highly flammable |
| R20 | Harmful by inhalation |
| R36/37/38 | Irritating to eyes, respiratory system and skin |
| R36/38 | Irritating to eyes and skin |
| R38 | Irritating to skin |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation |
| R48/21/22 | Harmful: danger of serious damage to health by prolonged exposure in contact with skin and if swallowed |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment |
| R64 | May cause harm to breastfed babies |
| R65 | Harmful: may cause lung damage if swallowed |
| R67 | Vapors may cause drowsiness and dizziness |
| F | Highly flammable |
| N | Dangerous for the environment |
| Xi | Irritant |
| Xn | Harmful |

- NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.
- NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.
- NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



HMIS III Rating

- Health : 2 Moderate Hazard - Temporary or minor injury may occur
- Flammability : 3 Serious Hazard
- Physical : 0 Minimal Hazard

CIL 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