Material Safety Data Sheet

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Section 1: Product Identification

Product Name: Palladium on Calcium Carbonate 3.5%
Product #: 300392
CAS #: 7440-05-3

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 7440-05-3

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellowish-brown solid (S.A. typically 20m)
Molecular Formula: Pd
Molecular Weight: 106.42
Melting Point: 1554 °C
Boiling Point: 2970 °C
Flash Point: No data available.
Density: 12.02
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong acids, bases, oxidizing agents, arsenic.
Decomposition Products: palladium oxides

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

Disclaimer: The information above is believed to be accurate and represents the information currently available to Aspira Scientific. However, we make no representation, warranty, or guarantee of any kind with respect to the information contained in this document or any use of the product based on this information.
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Section 1: Product Identification

Product Name: 1,2,3,4,5-Pentaphenyl-1'-(di-t-butylphosphino)ferrocene, 99%
Product #: 300393
CAS #: 312959-24-3

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 312959-24-3
Percent: 99%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: pink pwdr.
Molecular Formula: C48H47FeP
Molecular Weight: 710.71
Melting Point: 211-219 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, iron oxides, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Rhodium(II) acetate dimer, Rh 46.5%
Product #: 300394
CAS #: 15956-28-2

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 15956-28-2
Percent: Rh 46.5%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: green xtl.
Molecular Formula: C8H12O8Rh2
Molecular Weight: 441.99
Melting Point: 205 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, rhodium oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data:
Carcinogenic Effects:
Mutagenic Effects:
Tetratogenic Effects:

Section 12: Ecological Information

Ecological Information:

Section 13: Disposal Considerations

Disposal:

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Ruthenium(III) chloride hydrate, Ru 41.0%
Product #: 300395
CAS #: 14898-67-0

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 14898-67-0
Percent: Ru 41.0%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: black pwdr.
Molecular Formula: Cl3Ru•xH2O
Molecular Weight: 207.43
Melting Point: 100 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: 3.11
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: No data available.
Decomposition Products: hydrogen chloride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 3260; Class: 8; Packing group: II; Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Ruthenium(III) chloride hydrate); Marine pollutant: No
IMDG: UN number: 3260; Class: 8; Packing group: II EMS-No: F-A, S-B; Proper shipping name: CORROSIVE SOLID, ACIDIC, INORGANIC, N.O.S. (Ruthenium(III) chloride hydrate)
UN ID Number (IATA): UN number: 3260; Class: 8; Packing group: II; Proper shipping name: Corrosive solid, acidic, inorganic, n.o.s. (Ruthenium(III) chloride hydrate)

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Bis(cyclooctene)di-μ-chloroiridium(I)
Product #: 300396
CAS #: 12246-51-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 12246-51-4
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow xtl.
Molecular Formula: C32H56Cl2Ir2
Molecular Weight: 896.13
Melting Point: 160-165 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen chloride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Iridium (III) chloride hydrate
Product #: 300397
CAS #: 14996-61-3

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 14996-61-3
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: green to black xtl.
Molecular Formula: Cl3Ir · xH2O
Molecular Weight: 298.58
Melting Point: 763 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: 5.3
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, acids, bases, alkali metal salts, copper zinc salts, cyanides.
Decomposition Products: hydrogen chloride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Iridium (III) acetylacetonate, Ir 39.2%
Product #: 300398
CAS #: 15635-87-7

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 15635-87-7
Percent: Ir 39.2%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orange xtl.
Molecular Formula: C15H21IrO6
Molecular Weight: 489.54
Melting Point: 269-271 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, strong acids.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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Section 1: Product Identification

Product Name: Ruthenium(III) acetylacetonate
Product #: 300374
CAS #: 14284-93-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 14284-93-6
Percent: Ir 39.2%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red to brown xtl.
Molecular Formula: C15H21O6Ru
Molecular Weight: 398.39
Melting Point: 260 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Ammonium hexachloroiridate(III) monohydrate, 97%
Product #: 300399
CAS #: 29796-57-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 29796-57-4
Percent: Ir 67.5%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: brownish-green pwdr.
Molecular Formula: Cl6H14IrN3O
Molecular Weight: 477.07
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: hydrogen chloride

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Chlorobis(ethylene) Iridium (I) Dimer, 99%
Product #: 300400
CAS #: 39722-81-1

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 39722-81-1
Percent: Ir 19.1%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage:

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red pwdr.
Molecular Formula: C8H16Cl2Ir2
Molecular Weight: 567.55
Melting Point:
Boiling Point:
Flash Point:
Density:
Vapor Density:
Vapor Pressure:
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility:
Decomposition Products: Carbon oxides, hydrogen chloride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US):
IMDG:
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Carbonylhydridotris(triphenylphosphine)iridium(I), 99%
Product #: 300401
CAS #: 17250-25-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 17250-25-8
Percent: Ir 54.8%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: light yellow pwdr.
Molecular Formula: C55H46IrOP3
Molecular Weight: 1008.11
Melting Point: 170 °C
Boiling Point: 100 °C
Flash Point: No data available.
Density: 1.2
Vapor Density: 1.3
Vapor Pressure: 167 mmHg (21.1 °C)
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Oxidizing agents, water.
Decomposition Products: Carbon oxides, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: (Acetylacetonate)dicarbonyliridium(I), 99%
Product #: 300402
CAS #: 14023-80-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 14023-80-4
Percent: Ir 50.2%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: copper brown xtl.
Molecular Formula: C7H7IrO4
Molecular Weight: 347.35
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, strong bases, strong reducing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Methylcyclopentadienyl (1,5-Cyclooctadiene) Iridium (I), 99%
Product #: 300403
CAS #: 132644-88-3

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 132644-88-3
Percent: Ir 37.4%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: white to off-white pwdr.
Molecular Formula: C14H19Ir
Molecular Weight: 379.53
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, strong acids, strong bases.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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Section 1: Product Identification

Product Name: (1,5-Cyclooctadiene)(hexafluoroacetylacetonato)iridium(I), 98%
Product #: 300404
CAS #: 34801-95-1

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 34801-95-1
Percent: Ir 46.2%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red-purple xtl.
Molecular Formula: C13H13F6IrO2
Molecular Weight: 507.45
Melting Point: 101-110 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen fluoride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: (1,5-Cyclooctadiene)-?5-indenyl)iridium(I), 99%
Product #: 300405
CAS #: 102525-11-1

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 102525-11-1
Percent: Ir 33.7%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow xtl.
Molecular Formula: C17H19Ir
Molecular Weight: 414.54
Melting Point: 126-131 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Tris(norbornadiene)(acetylacetonato)iridium(III), 99%
Product #: 300406
CAS #: 41612-46-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 41612-46-8
Percent: Ir 24.1%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: light yellow pwdr.
Molecular Formula: C26H31IrO2
Molecular Weight: 567.75
Melting Point: 189 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: 7.3
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: (1,5-Cyclooctadiene)(pyridine)(tricyclohexylphosphine)-iridium(I) hexafluorophosphate, 99%
Product #: 300407
CAS #: 64536-78-3

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 64536-78-3
Percent: Ru 29.1%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orange xtl.
Molecular Formula: C31H50F6IrNP2
Molecular Weight: 804.89
Melting Point: 175 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen fluoride, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Ammonium hexachlororuthenate(IV), 99%
Product #: 300408
CAS #: 18746-63-9

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 18746-63-9
Percent: Ru 34.9%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red to brown pwdr.
Molecular Formula: (NH4)2RuCl6
Molecular Weight: 349.86
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: hydrogen chloride

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 3288; Class: 6.1; Packing group: III; Proper shipping name: Toxic solid, inorganic, n.o.s. (Ruthenium(IV)-ammonium chloride); Marine pollutant: No
IMDG: UN number: 3288; Class: 6.1; Packing group: III; EMS-No: F-A, S-A; Proper shipping name: TOXIC SOLID, INORGANIC, N.O.S. (Ruthenium(IV)-ammonium chloride)
UN ID Number (IATA): UN number: 3288; Class: 6.1; Packing group: III; Proper shipping name: Toxic solid, inorganic, n.o.s. (Ruthenium(IV)-ammonium chloride)

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Pentaamminechlororuthenium(III) chloride, 99%
Product #: 300409
CAS #: 18532-87-1

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 18532-87-1
Percent: Ru 17.3%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow microxtl.
Molecular Formula: Cl3H15N5Ru
Molecular Weight: 292.58
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: hydrogen chloride

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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www.aspirasci.com

Section 1: Product Identification

Product Name: Bis(2,2,6,6-tetramethyl-3,5-heptanedionato)(1,5-cyclooctadiene)ruthenium(II), 98%
Product #: 300412
CAS #: 329735-79-7

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 329735-79-7
Percent: Ru 15.1%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow-orange microxtl.
Molecular Formula: C30H50O4Ru
Molecular Weight: 575.8
Melting Point: -41.5 °C
Boiling Point: 130 °C
Flash Point: No data available.
Density: 0.858
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, strong mineral acids.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Tris(2,2,6,6-tetramethyl-3,5-heptanedionato)ruthenium(III), 97%
Product #: 300414
CAS #: 38625-54-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 38625-54-6
Percent: Ru 13.8%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orange pwdr.
Molecular Formula: C33H57O6Ru
Molecular Weight: 650.88
Melting Point: 200-203°
Boiling Point: 250 °C
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Oxidizing agents, water.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Tris(2,2′-bipyridyl)dichlororuthenium(II) hexahydrate, 97%
Product #: 300415
CAS #: 50525-27-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 50525-27-4
Percent: Ru 45.6%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orange to red xtl.
Molecular Formula: $C_{30}H_{24}Cl_2N_6Ru \cdot 6H_2O$
Molecular Weight: 748.62
Melting Point: >300 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, strong mineral acids.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Bis(cyclopentadienylruthenium dicarbonyl) dimer, 96%
Product #: 300416
CAS #: 12132-87-5

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 12132-87-5
Percent: Ru 32.8%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orangish-brown xtl.
Molecular Formula: C14H10O4Ru2
Molecular Weight: 444.37
Melting Point: 184-185 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Dichloro(pentamethylcyclopentadienyl)ruthenium(III) polymer, 99%
Product #: 300417
CAS #: 96503-27-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 96503-27-4
Percent: Ru 12.4%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red to brown pwdr.
Molecular Formula: C10H15Cl2Ru
Molecular Weight: 307.21
Melting Point: 45-47 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Chloro(indenyl)bis(triphenylphosphine)ruthenium(II), 97%
Product #: 300418
CAS #: 99897-61-7

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 99897-61-7
Percent: Ru 37.0%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: red-brown xtl.
Molecular Formula: C45H37ClP2Ru
Molecular Weight: 776.25
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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Section 1: Product Identification

Product Name: Chloro(pentamethylcyclopentadienyl)ruthenium(II) tetramer, 96%
Product #: 300419
CAS #: 113860-07-4

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 113860-07-4
Percent: Ru 26.7%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: dark red xtl.
Molecular Formula: C40H60Cl4Ru4
Molecular Weight: 1087
Melting Point: 276-278 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II), 97%
Product #: 300420
CAS #: 92390-26-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 92390-26-6
Percent: Ru 22.7%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: brown microxtls.
Molecular Formula: C18H27ClRu
Molecular Weight: 379.93
Melting Point: 143-147 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 3395; Class: 4.3; Packing group: II; Proper shipping name: Organometallic substance, solid, water-reactive; (Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II)); Marine pollutant: No
IMDG: UN number: 3395; Class: 4.3; Packing group: II EMS-No: F-G, S-N; Proper shipping name: ORGANOMETALLIC SUBSTANCE, SOLID, WATER-REACTIVE; (Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II))
UN ID Number (IATA): UN number: 3395; Class: 4.3; Packing group: II; Proper shipping name: Organometallic substance, solid, water-reactive (Chloro(pentamethylcyclopentadienyl)(cyclooctadiene)ruthenium(II))

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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Section 1: Product Identification

Product Name: Cyclopentadienyl(p-cymene)ruthenium(II) hexafluorophosphate, 95%
Product #: 300421
CAS #: 147831-75-2

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 147831-75-2
Percent: Ru 23.3%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: off-white to pale brown pwdr.
Molecular Formula: C15H19F6PRu
Molecular Weight: 445.35
Melting Point: 83-84 °C
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents, halogens.
Decomposition Products: Carbon oxides, hydrogen fluoride, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Tris(acetonitrile)cyclopentadienylruthenium(II) hexafluorophosphate, 98%
Product #: 300422
CAS #: 80049-61-2

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 80049-61-2
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow to orange pwdr.
Molecular Formula: C11H14F6N3PRu
Molecular Weight: 434.28
Melting Point: 117-118°C (dec.)
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen fluoride, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Pentamethylcyclopentadienyltris (acetonitrile)ruthenium(II) hexafluorophosphate
Product #: 300423
CAS #: 99604-67-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 99604-67-8
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow orange pwdr.
Molecular Formula: C16H24F6N3PRu
Molecular Weight: 504.42
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: No data available.
Decomposition Products: Carbon oxides, hydrogen fluoride, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Silicone oil
Product #: 100001
CAS #: 63148-62-9

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 63148-62-9
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: colorless viscous liq.
Molecular Formula: [-Si(CH3)2O-]n
Molecular Weight: 74.15
Melting Point: No data available.
Boiling Point: 140 °C/ 0.002 mmHg
Flash Point: >270 (518 °F)
Density: 0.963
Vapor Density: 1
Vapor Pressure: 5 mmHg (25 °C)
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Acids, bases.
Decomposition Products: silicon oxides

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

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Section 1: Product Identification

Product Name: (S)-(-)-2-Methyl-CBS-oxazaborolidine, 1 M in Toluene
Product #: 300109
CAS #: 112022-81-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 112022-81-8
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: white to off-white xtl.
Molecular Formula: C18H20BNO
Molecular Weight: 277.17
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: 4 °C (39 °F)
Density: 0.925
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, borane/boron oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: (R)-(+)-2-Methyl-CBS-oxazaborolidine, 1 M in Toluene
Product #: 300110
CAS #: 112022-83-0

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 112022-83-0
Percent:

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container under an inert atmosphere. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: white to off-white xtl.
Molecular Formula: C18H20BNO
Molecular Weight: 277.17
Melting Point: No data available.
Boiling Point: 111 °C
Flash Point: 4 °C (39 °F)
Density: 0.95
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Oxidizing agents.
Decomposition Products: Carbon oxides, borane/boron oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 1294; Class: 3; Packing group: II; Proper shipping name: Toluene, solution; Marine pollutant: No
IMDG: UN number: 1294; Class: 3; Packing group: II EMS-No: F-E, S-D; Proper shipping name: TOLUENE, SOLUTION
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: 5-Norbornene-2-methanol, 95%
Product #: 300317
CAS #: 95-12-5

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 95-12-5
Percent: 95%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: clear viscous liq.
Molecular Formula: C8H12O
Molecular Weight: 124.18
Melting Point: 39-40 °C
Boiling Point: 97 °C/ 20 mmHg
Flash Point: No data available.
Density: 1.027
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): NA-Number: 1993; Class: NONE; Packing group: III; Proper shipping name: Combustible liquid, n.o.s. (Bicyclo[2.2.1]hept-5-ene-2-methanol); Marine pollutant: No
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: 2-Iodo-4-(trifluoromethyl)phenol, 98%
Product #: 300318
CAS #: 463976-21-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 463976-21-8
Percent: 98%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: clear liq.
Molecular Formula: C7H4F3IO
Molecular Weight: 288.01
Melting Point: 661 °C
Boiling Point: 105 °C/ 44 mmHg
Flash Point: No data available.
Density: No data available.
Vapor Density: 1
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Oxidizing agents, bases, light.
Decomposition Products: Carbon oxides, hydrogen fluoride, hydrogen iodide, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 3264; Class: NONE; Packing group: No data available; Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (2-Iodo-4-(trifluoromethyl)phenol)
IMDG: UN number: 3264; Class: NONE; Packing group: No data available; Proper shipping name: Corrosive liquid, acidic, inorganic, n.o.s. (2-Iodo-4-(trifluoromethyl)phenol)
UN ID Number (IATA): UN number: 3264; Class: NONE; Packing group: No data available; Proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (2-Iodo-4-(trifluoromethyl)phenol)

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: 2,3,4,5-Tetrabromo-6-hydroxybenzoic acid, 95%
Product #: 300319
CAS #: 35754-69-9

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 35754-69-9
Percent: 95%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage:

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: gray pwdr.
Molecular Formula: C7H2Br4O3
Molecular Weight: 449.67
Melting Point: No data available.
Boiling Point: 406.6 ± 45.0 °C
Flash Point: 199.7 ± 28.7 °C
Density: 2.747
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility:
Decomposition Products: Carbon oxides, hydrogen bromide, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US):
IMDG:
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: O-(2,4-Dinitrophenyl)hydroxylamine, 97%
Product #: 300542
CAS #: 17508-17-7

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 17508-17-7
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: yellow solid
Molecular Formula: C6H5N3O5
Molecular Weight: 199.12
Melting Point: 106-108 °C
Boiling Point: 387 °C/760 mmHg
Flash Point: 187.9 °C (370.22 °F)
Density: 1.602 (20 °C)
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, nitrogen oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Material Safety Data Sheet

Aspira Scientific
521 Cottonwood Dr.
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www.aspirasci.com

Section 1: Product Identification

Product Name: O-(2,4-Dinitrophenyl)-N-methylhydroxylamine, 97%
Product #: 300543
CAS #: N/A

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: N/A
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: orange solid
Molecular Formula: C7H7N3O5
Molecular Weight: 213.15
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: No data available.
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, nitrogen oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: 2,4,6-Tris(benzyloxy)-1,3,5-triazine, 97%
Product #: 300544
CAS #: 7285-83-8

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 7285-83-8
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: white solid
Molecular Formula: C24H21N3O3
Molecular Weight: 399.44
Melting Point: No data available.
Boiling Point: 597 °C/760 mmHg
Flash Point: 207.0 °C (404.6 °F)
Density: 1.235
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, nitrogen oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Ethyl bromodifluoroacetate, 97%
Product #: 300545
CAS #: 667-27-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 667-27-6
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: colorless to light yellow liq.
Molecular Formula: C4H5BrF2O2
Molecular Weight: 202.98
Melting Point: No data available.
Boiling Point: 112 °C/700 mmHg
Flash Point: 21 °C (70 °F)
Density: 1.583
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen bromide, hydrogen fluoride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): UN number: 3272; Class: 3; Packing group: II; Proper shipping name: Esters, n.o.s.; Marine pollutant: No
IMDG: UN number: 3272; Class: 3; Packing group: II EMS-No: F-E, S-D; Proper shipping name: ESTERS, N.O.S. (Ethyl bromodifluoroacetate)
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: Diethyl (bromodifluoromethyl)phosphonate, 97%
Product #: 300546
CAS #: 65094-22-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 65094-22-6
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage: Store in a tightly sealed container. Keep in a cool dry place away from heat and direct sunlight. Ensure good ventilation at the workplace.

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: colorless liq.
Molecular Formula: C5H10BrF2O3P
Molecular Weight: 267.01
Melting Point: No data available.
Boiling Point: 40-41 °C/0.05 mmHg
Flash Point: >113 °C (>235.4 °F)
Density: 1.503
Vapor Density: No data available.
Vapor Pressure: No data available.
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen bromide, hydrogen fluoride, phosphorus oxides, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US): Not dangerous goods.
IMDG: Not dangerous goods.
UN ID Number (IATA): Not dangerous goods.

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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Section 1: Product Identification

Product Name: 2-Bromo-2,2-difluoro-1-morpholinoethanone, 97%
Product #: 300547
CAS #: 149229-27-6

Section 2: Composition and Information on Ingredients

Ingredient: Title Compound
CAS #: 149229-27-6
Percent: 97%

Section 3: Hazards Identification

Emergency Overview: Causes irritation to eyes, skin, and respiratory tract.
Eye Contact: Causes mild to severe eye irritation. May be harmful if absorbed in eyes.
Skin Contact: Causes mild to severe skin irritation. May be harmful if absorbed through skin.
Inhalation: Inhalation of dust may cause irritation of nose, mucous membranes, and respiratory tract. May be harmful if inhaled.
Ingestion: No specific information on the physiological effects is available. Ingestion may cause vomiting and diarrhea. May be harmful if swallowed.
Chronic Health Effects: No information available on long-term effects.

Section 4: First Aid Measures

Eye Exposure: Immediately rinse eyes with water for at least 10-15 minutes. Keep eye lids open if needed. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Skin Exposure: Immediately wash the affected area with soap and water. Remove contaminated clothing if needed and wash before reuse. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Inhalation: Keep affected individual warm and at rest in a comfortable position with access to fresh air. Closely monitor for signs of respiratory problems. Seek physician assistance immediately. Show this safety data sheet to the doctor in attendance.
Ingestion: Rinse mouth out with water. Do not give anything by mouth if affected individual is unconscious. Immediately seek physician assistance. Call poison center if needed. Show this safety data sheet to the doctor in attendance.

Section 5: Fire Fighting Measures

Extinguishing Medium: Carbon dioxide, dry power, or foam.
Fire Fighting Procedures: Fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.
Hazardous Combustion and Decomposition Products: The product may emit toxic fumes If involved in a fire.

Section 6: Accidental Release Measures

Spill and Leak Procedures: Keep unprotected persons away. Small spills can be mixed with vermiculite or sodium carbonate and sweep up without creating dust. Keep away from ignition sources. Then place into a suitable disposal container and dispose of according to government regulations.

Section 7: Handling and Storage

Handling and Storage:

Section 8: Exposure Controls and Personal Protection

Eye Protection: Always wear approved safety glasses / face protection when handling a chemical substance in the laboratory. Remove contact lenses if possible.
Skin Protection: Wear protective clothing, gloves or face protection. Use government-approved equipment under appropriate standards. Inspect before use. Consult with glove manufacturer to determine the proper type of glove.
Ventilation: Always handle the material in an efficient fume hood.
Respirator: Use a respirator if ventilation is not available. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 1910.134.

Section 9: Physical and Chemical Properties

Color and Form: colorless liq.
Molecular Formula: C6H8BrF2NO2
Molecular Weight: 244.03
Melting Point: No data available.
Boiling Point: No data available.
Flash Point: No data available.
Density: 1.695 (20 °C)
Vapor Density: No data available.
Vapor Pressure: 1.64E-3 mmHg
Autoignition Temperature: No data available.
Specific Gravity: No data available.
Odor: No data available.
Solubility in Water: No data available.

Section 10: Stability and Reactivity

Stability: Stable under recommended storage conditions.
Hazardous Reactions: No data available.
Conditions to Avoid: Handle the material according to specifications.
Incompatibility: Strong oxidizing agents.
Decomposition Products: Carbon oxides, hydrogen bromide, hydrogen fluoride, organic fumes.

Section 11: Toxicological Information

RTECS Data: No information available in the RTECS files.
Carcinogenic Effects: No data available.
Mutagenic Effects: No data available.
Tetratogenic Effects: No data available.

Section 12: Ecological Information

Ecological Information: No data available.

Section 13: Disposal Considerations

Disposal: Dispose material according to local, state and federal regulations.

Section 14: Transportation

DOT (US):
IMDG:
UN ID Number (IATA):

Section 15: Regulatory Information

TSCA: Not listed in the TSCA inventory.
SARS (Title 313): Not reportable under SARA Title 313.

Section 16: Other Information

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