

SAFETY DATA SHEET



GC/MS Checkout Standards Kit, Part Number 5184-3517

Section 1. Identification

Product identifier	:	GC/MS Checkout Standards Kit, Part Number 5184-3517
Part No. (Chemical Kit)	:	5184-3517
Part No.	:	Perfluorotributylamine -PFTBA- GC-MS Standard 05971-60571
		PFDTD Calibrant 8500-8510
		<u>GC - MS Multi-Component Checkout Sample</u> 5185-5840
		Benzophenone in isooctane, 100 pg/μl 8500-5440-1
		OFN in Isooctane, 1 pg/μl 8500-5441-1
		GC/MS Checkout Sample, 10 ng/ul 05970-60045-1

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

Reagents and Standards for Analytical Chemistry Laboratory Use

Perfluorotributylamine -PFTBA- GC-MS Standard	0.5 ml
PFDTD Calibrant	1 ml
Benzophenone in isooctane, 100 pg/μl	1 x 1 ml
OFN in Isooctane, 1 pg/μl	2 x 1 ml
GC/MS Checkout Sample, 10 ng/ul	1 x 1 ml

Supplier/Manufacturer : Agilent Technologies Australia Pty Ltd
679 Springvale Road
Mulgrave
Victoria 3170, Australia
1800 802 402

Emergency telephone number (with hours of operation) : CHEMTREC®: +(61)-290372994

Section 2. Hazard(s) identification

Classification of the substance or mixture

Perfluorotributylamine - PFTBA- GC-MS Standard

H315	SKIN CORROSION/IRRITATION - Category 2
H319	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2A
H335	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Respiratory tract irritation) - Category 3

Benzophenone in isooctane, 100 pg/μl

H225	FLAMMABLE LIQUIDS - Category 2
H315	SKIN CORROSION/IRRITATION - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
H304	ASPIRATION HAZARD - Category 1
H400	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
H410	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

OFN in Isooctane, 1 pg/μl

H225	FLAMMABLE LIQUIDS - Category 2
H315	SKIN CORROSION/IRRITATION - Category 2
H336	SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) - Category 3
H304	ASPIRATION HAZARD - Category 1

Section 2. Hazard(s) identification

H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
 H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

GC/MS Checkout Sample, 10 ng/ul

H225 FLAMMABLE LIQUIDS - Category 2
 H315 SKIN CORROSION/IRRITATION - Category 2
 H336 SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE (Narcotic effects) -
 Category 3
 H304 ASPIRATION HAZARD - Category 1
 H400 SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
 H410 LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1

GHS label elements

Hazard pictograms

: Perfluorotributylamine -
PFTBA- GC-MS Standard



Benzophenone in isooctane,
100 pg/μl



OFN in Isooctane, 1 pg/μl



GC/MS Checkout Sample,
10 ng/ul



Signal word

: Perfluorotributylamine -
PFTBA- GC-MS Standard WARNING
 PFDTD Calibrant No signal word.
 Benzophenone in isooctane,
100 pg/μl 8500-5440-1 DANGER
 OFN in Isooctane, 1 pg/μl
8500-5441-1 DANGER
 GC/MS Checkout Sample,
10 ng/ul 05970-60045-1 DANGER

Hazard statements

: Perfluorotributylamine -
PFTBA- GC-MS Standard H319 - Causes serious eye irritation.
 PFDTD Calibrant H315 - Causes skin irritation.
 Benzophenone in isooctane,
100 pg/μl 8500-5440-1 H335 - May cause respiratory irritation.
 H225 - Highly flammable liquid and vapour.
 OFN in Isooctane, 1 pg/μl
8500-5441-1 H315 - Causes skin irritation.
 H304 - May be fatal if swallowed and enters airways.
 H336 - May cause drowsiness or dizziness.
 H410 - Very toxic to aquatic life with long lasting effects.
 H225 - Highly flammable liquid and vapour.
 H315 - Causes skin irritation.
 H304 - May be fatal if swallowed and enters airways.
 H336 - May cause drowsiness or dizziness.
 H410 - Very toxic to aquatic life with long lasting effects.

Section 2. Hazard(s) identification

GC/MS Checkout Sample,
10 ng/ul 05970-60045-1

H225 - Highly flammable liquid and vapour.

H315 - Causes skin irritation.

H304 - May be fatal if swallowed and enters airways.

H336 - May cause drowsiness or dizziness.

H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

: Perfluorotributylamine -
PFTBA- GC-MS Standard

P280 - Wear protective gloves. Wear eye or face protection.

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

P261 - Avoid breathing vapour.

P264 - Wash hands thoroughly after handling.

Not applicable.

PFDTD Calibrant
Benzophenone in isooctane,
100 pg/ul 8500-5440-1

P280 - Wear protective gloves. Wear eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P233 - Keep container tightly closed.

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

P273 - Avoid release to the environment.

P261 - Avoid breathing vapour.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves. Wear eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P233 - Keep container tightly closed.

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

P273 - Avoid release to the environment.

P261 - Avoid breathing vapour.

P264 - Wash hands thoroughly after handling.

P280 - Wear protective gloves. Wear eye or face protection.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.

P242 - Use only non-sparking tools.

P243 - Take precautionary measures against static discharge.

P233 - Keep container tightly closed.

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

P273 - Avoid release to the environment.

P261 - Avoid breathing vapour.

P264 - Wash hands thoroughly after handling.

GC/MS Checkout Sample,
10 ng/ul 05970-60045-1

Section 2. Hazard(s) identification

Response

<p>Perfluorotributylamine - PFTBA- GC-MS Standard</p>	<p>P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P302 + P352 + P362 + P363 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. Wash contaminated clothing before reuse. P332 + P313 - If skin irritation occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.</p>
<p>PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1</p>	<p>Not applicable. P391 - Collect spillage.</p> <p>P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical attention.</p>
<p>OFN in Isooctane, 1 pg/µl 8500-5441-1</p>	<p>P391 - Collect spillage.</p> <p>P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical attention.</p>
<p>GC/MS Checkout Sample, 10 ng/ul 05970-60045-1</p>	<p>P391 - Collect spillage.</p> <p>P304 + P340 + P312 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P301 + P310 + P331 - IF SWALLOWED: Immediately call a POISON CENTER or physician. Do NOT induce vomiting. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. P302 + P352 + P362 - IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing. P332 + P313 - If skin irritation occurs: Get medical attention.</p>

Section 2. Hazard(s) identification

Storage	:	Perfluorotributylamine - PFTBA- GC-MS Standard	P405 - Store locked up.
		PFDTD Calibrant	Not applicable.
		Benzophenone in isooctane, 100 pg/µl 8500-5440-1	P405 - Store locked up.
		OFN in Isooctane, 1 pg/µl 8500-5441-1	P403 - Store in a well-ventilated place. P235 - Keep cool. P405 - Store locked up.
		GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	P403 - Store in a well-ventilated place. P235 - Keep cool. P405 - Store locked up.
Disposal	:	Perfluorotributylamine - PFTBA- GC-MS Standard	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		PFDTD Calibrant	Not applicable.
		Benzophenone in isooctane, 100 pg/µl 8500-5440-1	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		OFN in Isooctane, 1 pg/µl 8500-5441-1	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
		GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Supplemental label elements			
Additional warning phrases	:	Perfluorotributylamine - PFTBA- GC-MS Standard	Not applicable.
		PFDTD Calibrant	Not applicable.
		Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Not applicable.
		OFN in Isooctane, 1 pg/µl 8500-5441-1	Not applicable.
		GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Not applicable.
Other hazards which do not result in classification	:	Perfluorotributylamine - PFTBA- GC-MS Standard	None known.
		PFDTD Calibrant	None known.
		Benzophenone in isooctane, 100 pg/µl 8500-5440-1	None known.
		OFN in Isooctane, 1 pg/µl 8500-5441-1	None known.
		GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	None known.

Section 3. Composition and ingredient information

Substance/mixture	:	Perfluorotributylamine - PFTBA- GC-MS Standard	Substance
		PFDTD Calibrant	Substance
		Benzophenone in isooctane, 100 pg/µl	Mixture
		OFN in Isooctane, 1 pg/µl	Mixture
		GC/MS Checkout Sample, 10 ng/ul	Mixture

CAS number/other identifiers

Section 3. Composition and ingredient information

Ingredient name	% (w/w)	CAS number
Perfluorotributylamine -PFTBA- GC-MS Standard Tris(Perfluorobutyl)amine	100	311-89-7
PFDTD Calibrant Propane, 1,1,1,2,3,3-hexafluoro-2-(1,1,2,2,3,3,3-heptafluoropropoxy)-3-[1,2,2-trifluoro-2-(1,2,2,2-tetrafluoroethoxy)-1-(trifluoromethyl)ethoxy]-	100	3330-16-3
Benzophenone in isooctane, 100 pg/µl 8500-5440-1 2,2,4-trimethylpentane	≥90	540-84-1
OFN in Isooctane, 1 pg/µl 8500-5441-1 2,2,4-trimethylpentane	≥90	540-84-1
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 2,2,4-trimethylpentane	≥90	540-84-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: Perfluorotributylamine - PFTBA- GC-MS Standard	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	PFDTD Calibrant	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
Inhalation	: Perfluorotributylamine - PFTBA- GC-MS Standard	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Section 4. First aid measures

PFDTD Calibrant	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Benzophenone in isooctane, 100 pg/μl 8500-5440-1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
OFN in Isooctane, 1 pg/μl 8500-5441-1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact

: Perfluorotributylamine - PFTBA- GC-MS Standard	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
PFDTD Calibrant	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Benzophenone in isooctane, 100 pg/μl 8500-5440-1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
OFN in Isooctane, 1 pg/μl 8500-5441-1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Section 4. First aid measures

	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
Ingestion	: Perfluorotributylamine - PFTBA- GC-MS Standard	Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	PFDTD Calibrant	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.
	Benzophenone in isooctane, 100 pg/ul 8500-5440-1	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	OFN in Isooctane, 1 pg/ul 8500-5441-1	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air

Section 4. First aid measures

and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Aspiration hazard if swallowed. Can enter lungs and cause damage. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	May cause respiratory irritation. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Causes skin irritation. No known significant effects or critical hazards. Causes skin irritation. Causes skin irritation. Causes skin irritation.
Ingestion	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Over-exposure signs/symptoms

Eye contact	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Adverse symptoms may include the following: pain or irritation watering redness No specific data. Adverse symptoms may include the following:
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		pain or irritation watering redness
	OFN in Isooctane, 1 pg/ μ l 8500-5441-1	Adverse symptoms may include the following:
		pain or irritation watering redness
	GC/MS Checkout Sample, 10 ng/ μ l 05970-60045-1	Adverse symptoms may include the following:
		pain or irritation watering redness
Inhalation	: Perfluorotributylamine - PFTBA- GC-MS Standard	Adverse symptoms may include the following:
		respiratory tract irritation coughing
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/ μ l 8500-5440-1	No specific data. Adverse symptoms may include the following:
		nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	OFN in Isooctane, 1 pg/ μ l 8500-5441-1	Adverse symptoms may include the following:
		nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	GC/MS Checkout Sample, 10 ng/ μ l 05970-60045-1	Adverse symptoms may include the following:
		nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	: Perfluorotributylamine - PFTBA- GC-MS Standard	Adverse symptoms may include the following:
		irritation redness
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/ μ l 8500-5440-1	No specific data. Adverse symptoms may include the following:
		irritation redness
	OFN in Isooctane, 1 pg/ μ l 8500-5441-1	Adverse symptoms may include the following:
		irritation redness
	GC/MS Checkout Sample, 10 ng/ μ l 05970-60045-1	Adverse symptoms may include the following:
		irritation redness

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Ingestion	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/μl 8500-5440-1	No specific data. No specific data. Adverse symptoms may include the following: nausea or vomiting
	OFN in Isooctane, 1 pg/μl 8500-5441-1	Adverse symptoms may include the following: nausea or vomiting
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Adverse symptoms may include the following: nausea or vomiting

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician	: Perfluorotributylamine - PFTBA- GC-MS Standard	In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
	PFDTD Calibrant	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/μl 8500-5440-1 OFN in Isooctane, 1 pg/μl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No specific treatment. No specific treatment. No specific treatment. No specific treatment.
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Protection of first-aiders	: Perfluorotributylamine - PFTBA- GC-MS Standard	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	PFDTD Calibrant	No action shall be taken involving any personal risk or without suitable training.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an

Section 4. First aid measures

appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media

- | | |
|---|--|
| <ul style="list-style-type: none"> : Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant | <ul style="list-style-type: none"> Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire. |
| <ul style="list-style-type: none"> Benzophenone in isooctane, 100 pg/μl 8500-5440-1 | <ul style="list-style-type: none"> Use dry chemical, CO₂, water spray (fog) or foam. |
| <ul style="list-style-type: none"> OFN in Isooctane, 1 pg/μl 8500-5441-1 | <ul style="list-style-type: none"> Use dry chemical, CO₂, water spray (fog) or foam. |
| <ul style="list-style-type: none"> GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 | <ul style="list-style-type: none"> Use dry chemical, CO₂, water spray (fog) or foam. |

Unsuitable extinguishing media

- | | |
|---|--|
| <ul style="list-style-type: none"> : Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant | <ul style="list-style-type: none"> None known. |
| <ul style="list-style-type: none"> Benzophenone in isooctane, 100 pg/μl 8500-5440-1 | <ul style="list-style-type: none"> None known. Do not use water jet. |
| <ul style="list-style-type: none"> OFN in Isooctane, 1 pg/μl 8500-5441-1 | <ul style="list-style-type: none"> Do not use water jet. |
| <ul style="list-style-type: none"> GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 | <ul style="list-style-type: none"> Do not use water jet. |

Specific hazards arising from the chemical

- | | |
|---|---|
| <ul style="list-style-type: none"> : Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant | <ul style="list-style-type: none"> In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst. |
| <ul style="list-style-type: none"> Benzophenone in isooctane, 100 pg/μl 8500-5440-1 | <ul style="list-style-type: none"> Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| <ul style="list-style-type: none"> OFN in Isooctane, 1 pg/μl 8500-5441-1 | <ul style="list-style-type: none"> Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain. |
| <ul style="list-style-type: none"> GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 | <ul style="list-style-type: none"> Highly flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapour/gas is heavier than air and will |

Section 5. Firefighting measures

Hazardous thermal decomposition products	: Perfluorotributylamine - PFTBA- GC-MS Standard	spread along the ground. Vapours may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
	PFDTD Calibrant	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides halogenated compounds
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Decomposition products may include the following materials: carbon dioxide carbon monoxide halogenated compounds
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Decomposition products may include the following materials: carbon dioxide carbon monoxide
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Decomposition products may include the following materials: carbon dioxide carbon monoxide
Special protective actions for fire-fighters	: Perfluorotributylamine - PFTBA- GC-MS Standard	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	PFDTD Calibrant	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Firefighting measures

Special protective equipment for fire-fighters	: Perfluorotributylamine - PFTBA- GC-MS Standard	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	PFDTD Calibrant	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
Hazchem code	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	3YE
	OFN in Isooctane, 1 pg/µl	3YE
	GC/MS Checkout Sample, 10 ng/ul	3YE

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Perfluorotributylamine - PFTBA- GC-MS Standard	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	PFDTD Calibrant	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Put on appropriate personal protective equipment.
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
	OFN in Isooctane, 1 pg/µl 8500-5441-1	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate

Section 6. Accidental release measures

<p>GC/MS Checkout Sample, 10 ng/ul 05970-60045-1</p>	<p>ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.</p>
<p>For emergency responders : Perfluorotributylamine - PFTBA- GC-MS Standard</p>	<p>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>PFDTD Calibrant</p>	<p>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>Benzophenone in isooctane, 100 pg/ul 8500-5440-1</p>	<p>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>OFN in Isooctane, 1 pg/ul 8500-5441-1</p>	<p>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>GC/MS Checkout Sample, 10 ng/ul 05970-60045-1</p>	<p>If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".</p>
<p>Environmental precautions : Perfluorotributylamine - PFTBA- GC-MS Standard</p>	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</p>
<p>PFDTD Calibrant</p>	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).</p>
<p>Benzophenone in isooctane, 100 pg/ul 8500-5440-1</p>	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.</p>
<p>OFN in Isooctane, 1 pg/ul 8500-5441-1</p>	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.</p>
<p>GC/MS Checkout Sample, 10 ng/ul 05970-60045-1</p>	<p>Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful</p>

Section 6. Accidental release measures

to the environment if released in large quantities. Collect spillage.

Methods and material for containment and cleaning up

Methods for cleaning up	: Perfluorotributylamine - PFTBA- GC-MS Standard	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	PFDTD Calibrant	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

Protective measures	: Perfluorotributylamine - PFTBA- GC-MS Standard	Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
	PFDTD Calibrant	Put on appropriate personal protective equipment (see Section 8).
	Benzophenone in isooctane, 100 pg/µl 8500-5440-1	Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible

Section 7. Handling and storage

material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

OFN in Isooctane, 1 pg/ μ l
8500-5441-1

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

GC/MS Checkout Sample,
10 ng/ μ l 05970-60045-1

Put on appropriate personal protective equipment (see Section 8). Do not swallow. Avoid contact with eyes, skin and clothing. Avoid breathing vapour or mist. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

: Perfluorotriethylamine -
PFTBA- GC-MS Standard

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

PFDTD Calibrant

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Benzophenone in isooctane,
100 pg/ μ l

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

OFN in Isooctane, 1 pg/ μ l	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
GC/MS Checkout Sample, 10 ng/ μ l	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Perfluorotributylamine - PFTBA- GC-MS Standard

Store between the following temperatures: 2 to 8°C (35.6 to 46.4°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

PFDTD Calibrant

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Benzophenone in isooctane, 100 pg/ μ l 8500-5440-1

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

OFN in Isooctane, 1 pg/ μ l 8500-5441-1

Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment

Section 7. Handling and storage

GC/MS Checkout Sample,
10 ng/ul 05970-60045-1

to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

<u>Ingredient name</u>	<u>Exposure limits</u>
Benzophenone in isooctane, 100 pg/μl 8500-5440-1 2,2,4-trimethylpentane	ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.
OFN in Isooctane, 1 pg/μl 8500-5441-1 2,2,4-trimethylpentane	ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 2,2,4-trimethylpentane	ACGIH TLV (United States, 3/2017). TWA: 300 ppm 8 hours.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Section 8. Exposure controls and personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state	: Perfluorotributylamine - PFTBA- GC-MS Standard	Liquid. [Hygroscopic.]
	PFDTD Calibrant	Liquid.
	Benzophenone in isooctane, 100 pg/µl	Liquid.
	OFN in Isooctane, 1 pg/µl	Liquid.
	GC/MS Checkout Sample, 10 ng/ul	Liquid.
Colour	: Perfluorotributylamine - PFTBA- GC-MS Standard	Colourless.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Light
	OFN in Isooctane, 1 pg/µl	Colourless.
	GC/MS Checkout Sample, 10 ng/ul	Clear. / Colourless.
Odour	: Perfluorotributylamine - PFTBA- GC-MS Standard	Odourless.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Gasoline-like [Strong]
	OFN in Isooctane, 1 pg/µl	Gasoline-like [Strong]
	GC/MS Checkout Sample, 10 ng/ul	Gasoline-like
Odour threshold	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Not available.
	OFN in Isooctane, 1 pg/µl	Not available.
	GC/MS Checkout Sample, 10 ng/ul	Not available.
pH	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Not available.
	OFN in Isooctane, 1 pg/µl	Not available.
	GC/MS Checkout Sample,	Not available.

Section 9. Physical and chemical properties

	10 ng/ul	
Melting point	: Perfluorotributylamine -	-50°C (-58°F)
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane,	-107°C (-160.6°F)
	100 pg/ul	
	OFN in Isooctane, 1 pg/ul	-107°C (-160.6°F)
	GC/MS Checkout Sample,	-107°C (-160.6°F)
	10 ng/ul	
Boiling point	: Perfluorotributylamine -	170 to 180°C (338 to 356°F)
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	170°C (338°F)
	Benzophenone in isooctane,	99.2°C (210.6°F)
	100 pg/ul	
	OFN in Isooctane, 1 pg/ul	99.2°C (210.6°F)
	GC/MS Checkout Sample,	99.2°C (210.6°F)
	10 ng/ul	
Flash point	: Perfluorotributylamine -	Not available.
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane,	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
	100 pg/ul	
		Open cup: 4.5°C (40.1°F)
	OFN in Isooctane, 1 pg/ul	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
		Open cup: 4.5°C (40.1°F)
	GC/MS Checkout Sample,	Closed cup: -18 to 23°C (-0.4 to 73.4°F)
	10 ng/ul	
		Open cup: 4.5°C (40.1°F)
Evaporation rate	: Perfluorotributylamine -	Not available.
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane,	3.6 (butyl acetate = 1)
	100 pg/ul	
	OFN in Isooctane, 1 pg/ul	Not available.
	GC/MS Checkout Sample,	Not available.
	10 ng/ul	
Flammability (solid, gas)	: Perfluorotributylamine -	Not applicable.
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not applicable.
	Benzophenone in isooctane,	Not applicable.
	100 pg/ul	
	OFN in Isooctane, 1 pg/ul	Not applicable.
	GC/MS Checkout Sample,	Not applicable.
	10 ng/ul	
Lower and upper explosive (flammable) limits	: Perfluorotributylamine -	Not available.
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane,	Lower: 1.1%
	100 pg/ul	
		Upper: <=13%
	OFN in Isooctane, 1 pg/ul	Lower: 1.1%
		Upper: 6%
	GC/MS Checkout Sample,	Lower: 1.1%
	10 ng/ul	
		Upper: 6%

Section 9. Physical and chemical properties

Vapour pressure	: Perfluorotributylamine - PFTBA- GC-MS Standard	0.17 kPa (1.3 mm Hg) [room temperature]
	PFDTD Calibrant	0.76 kPa (5.7 mm Hg) [room temperature]
	Benzophenone in isooctane, 100 pg/µl	5.5 kPa (41 mm Hg) [room temperature]
	OFN in Isooctane, 1 pg/µl	5.5 kPa (41 mm Hg) [room temperature]
	GC/MS Checkout Sample, 10 ng/ul	5.5 kPa (41 mm Hg) [room temperature]
Vapour density	: Perfluorotributylamine - PFTBA- GC-MS Standard	23.3 [Air = 1]
	PFDTD Calibrant	21.31 [Air = 1]
	Benzophenone in isooctane, 100 pg/µl	>1 [Air = 1]
	OFN in Isooctane, 1 pg/µl	3.93 [Air = 1]
	GC/MS Checkout Sample, 10 ng/ul	3.93 [Air = 1]
Relative density	: Perfluorotributylamine - PFTBA- GC-MS Standard	1.883
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Not available.
	OFN in Isooctane, 1 pg/µl	0.692
	GC/MS Checkout Sample, 10 ng/ul	Not available.
Solubility	: Perfluorotributylamine - PFTBA- GC-MS Standard	Insoluble in the following materials: cold water, hot water and methanol.
	PFDTD Calibrant	Very slightly soluble in the following materials: cold water and hot water.
	Benzophenone in isooctane, 100 pg/µl	Insoluble in the following materials: cold water and hot water.
	OFN in Isooctane, 1 pg/µl	Insoluble in the following materials: cold water and hot water.
	GC/MS Checkout Sample, 10 ng/ul	Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	4.5
	OFN in Isooctane, 1 pg/µl	Not available.
	GC/MS Checkout Sample, 10 ng/ul	Not available.
Auto-ignition temperature	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	418°C (784.4°F)
	OFN in Isooctane, 1 pg/µl	418°C (784.4°F)
	GC/MS Checkout Sample, 10 ng/ul	418°C (784.4°F)
Decomposition temperature	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/µl	Not available.
	OFN in Isooctane, 1 pg/µl	Not available.
	GC/MS Checkout Sample, 10 ng/ul	Not available.

Section 9. Physical and chemical properties

Viscosity	: Perfluorotributylamine - PFTBA- GC-MS Standard	Not available.
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/μl	Not available.
	OFN in Isooctane, 1 pg/μl	Not available.
	GC/MS Checkout Sample, 10 ng/ul	Not available.

Section 10. Stability and reactivity

Reactivity	: Perfluorotributylamine - PFTBA- GC-MS Standard	No specific test data related to reactivity available for this product or its ingredients.
	PFDTD Calibrant	No specific test data related to reactivity available for this product or its ingredients.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	No specific test data related to reactivity available for this product or its ingredients.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	No specific test data related to reactivity available for this product or its ingredients.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No specific test data related to reactivity available for this product or its ingredients.

Chemical stability	: Perfluorotributylamine - PFTBA- GC-MS Standard	The product is stable.
	PFDTD Calibrant	The product is stable.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	The product is stable.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	The product is stable.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	The product is stable.

Possibility of hazardous reactions	: Perfluorotributylamine - PFTBA- GC-MS Standard	Under normal conditions of storage and use, hazardous reactions will not occur.
	PFDTD Calibrant	Under normal conditions of storage and use, hazardous reactions will not occur.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	Under normal conditions of storage and use, hazardous reactions will not occur.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	Under normal conditions of storage and use, hazardous reactions will not occur.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid	: Perfluorotributylamine - PFTBA- GC-MS Standard	No specific data.
	PFDTD Calibrant	No specific data.
	Benzophenone in isooctane, 100 pg/μl 8500-5440-1	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
	OFN in Isooctane, 1 pg/μl 8500-5441-1	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Avoid all possible sources of ignition (spark or flame). Do not pressurise, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapour to accumulate in low or confined areas.

Section 10. Stability and reactivity

Incompatible materials	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/μl 8500-5440-1 OFN in Isooctane, 1 pg/μl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	May react or be incompatible with oxidising materials. May react or be incompatible with oxidising materials. Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/μl 8500-5440-1 OFN in Isooctane, 1 pg/μl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced. Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Perfluorotributylamine - PFTBA- GC-MS Standard Tris(Perfluorobutyl)amine	LD50 Oral	Rat	>10 g/kg	-
Benzophenone in isooctane, 100 pg/μl 8500-5440-1 2,2,4-trimethylpentane	LC50 Inhalation Vapour LD50 Oral	Rat - Male, Female Rat - Male, Female	>33.52 mg/l >5000 mg/kg	4 hours -
OFN in Isooctane, 1 pg/μl 8500-5441-1 2,2,4-trimethylpentane	LC50 Inhalation Vapour LD50 Oral	Rat - Male, Female Rat - Male, Female	>33.52 mg/l >5000 mg/kg	4 hours -
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 2,2,4-trimethylpentane	LC50 Inhalation Vapour LD50 Oral	Rat - Male, Female Rat - Male, Female	>33.52 mg/l >5000 mg/kg	4 hours -

Irritation/Corrosion

Not available.

Section 11. Toxicological information

Sensitisation

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Perfluorotributylamine -PFTBA- GC-MS Standard Tris(Perfluorobutyl)amine	Category 3	Not applicable.	Respiratory tract irritation
Benzophenone in isooctane, 100 pg/µl 8500-5440-1 2,2,4-trimethylpentane	Category 3	Not applicable.	Narcotic effects
OFN in Isooctane, 1 pg/µl 8500-5441-1 2,2,4-trimethylpentane	Category 3	Not applicable.	Narcotic effects
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 2,2,4-trimethylpentane	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Name	Result
Benzophenone in isooctane, 100 pg/µl 8500-5440-1 Benzophenone in isooctane, 100 pg/µl 8500-5440-1 2,2,4-trimethylpentane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
OFN in Isooctane, 1 pg/µl 8500-5441-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 2,2,4-trimethylpentane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1 2,2,4-trimethylpentane	ASPIRATION HAZARD - Category 1 ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Perfluorotributylamine - Routes of entry anticipated: Oral, Dermal, Inhalation.
PFTBA- GC-MS Standard Not available.
PFDTD Calibrant
Benzophenone in isooctane, Routes of entry anticipated: Oral, Dermal, Inhalation.
100 pg/µl
OFN in Isooctane, 1 pg/µl Routes of entry anticipated: Oral, Dermal, Inhalation.
GC/MS Checkout Sample, Routes of entry anticipated: Oral, Dermal, Inhalation.
10 ng/ul

Potential acute health effects

Section 11. Toxicological information

Eye contact	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Causes serious eye irritation. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	May cause respiratory irritation. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
Skin contact	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Causes skin irritation. No known significant effects or critical hazards. Causes skin irritation. Causes skin irritation. Causes skin irritation.
Ingestion	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways. Can cause central nervous system (CNS) depression. May be fatal if swallowed and enters airways.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact	: Perfluorotributylamine - PFTBA- GC-MS Standard	Adverse symptoms may include the following: pain or irritation watering redness
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1	No specific data. Adverse symptoms may include the following: pain or irritation watering redness
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Adverse symptoms may include the following: pain or irritation watering redness
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Adverse symptoms may include the following: pain or irritation watering redness

Section 11. Toxicological information

Inhalation	: Perfluorotributylamine - PFTBA- GC-MS Standard	Adverse symptoms may include the following: respiratory tract irritation coughing
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1	No specific data. Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Adverse symptoms may include the following: nausea or vomiting headache drowsiness/fatigue dizziness/vertigo unconsciousness
Skin contact	: Perfluorotributylamine - PFTBA- GC-MS Standard	Adverse symptoms may include the following: irritation redness
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1	No specific data. Adverse symptoms may include the following: irritation redness
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Adverse symptoms may include the following: irritation redness
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Adverse symptoms may include the following: irritation redness
Ingestion	: Perfluorotributylamine - PFTBA- GC-MS Standard	No specific data.
	PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1	No specific data. Adverse symptoms may include the following: nausea or vomiting
	OFN in Isooctane, 1 pg/µl 8500-5441-1	Adverse symptoms may include the following: nausea or vomiting
	GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	Adverse symptoms may include the following: nausea or vomiting

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 11. Toxicological information

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Carcinogenicity	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Mutagenicity	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Teratogenicity	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Developmental effects	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.
Fertility effects	: Perfluorotributylamine - PFTBA- GC-MS Standard PFDTD Calibrant Benzophenone in isooctane, 100 pg/µl 8500-5440-1 OFN in Isooctane, 1 pg/µl 8500-5441-1 GC/MS Checkout Sample, 10 ng/ul 05970-60045-1	No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards. No known significant effects or critical hazards.

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Other information	: Perfluorotributylamine -	Not available.
	PFTBA- GC-MS Standard	
	PFDTD Calibrant	Not available.
	Benzophenone in isooctane, 100 pg/μl	Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.
	OFN in Isooctane, 1 pg/μl	Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.
	GC/MS Checkout Sample, 10 ng/ul	Adverse symptoms may include the following: Repeated exposure may cause skin dryness or cracking.

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Perfluorotributylamine - PFTBA- GC-MS Standard Tris(Perfluorobutyl)amine	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Benzophenone in isooctane, 100 pg/μl 8500-5440-1			
Benzophenone in isooctane, 100 pg/μl 8500-5440-1	4.5	-	high
2,2,4-trimethylpentane	4.08	231	low
OFN in Isooctane, 1 pg/μl 8500-5441-1			
2,2,4-trimethylpentane	4.08	231	low
GC/MS Checkout Sample, 10 ng/ul 05970-60045-1			
2,2,4-trimethylpentane	4.08	231	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Additional information

Remarks: De minimis quantities

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.
Canada : Not determined.
China : Not determined.
Europe : Not determined.
Japan : **Japan inventory (ENCS):** Not determined.
Japan inventory (ISHL): Not determined.
Malaysia : Not determined.

Section 15. Regulatory information

New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: Not determined.
Thailand	: Not determined.
Turkey	: Not determined.
United States	: Not determined.
Viet Nam	: Not determined.

Section 16. Any other relevant information

History

Date of issue/Date of revision	: 18/12/2017
Date of previous issue	: 27/10/2009.
Version	: 2

Key to abbreviations

: ADG = Australian Dangerous Goods
: ATE = Acute Toxicity Estimate
: BCF = Bioconcentration Factor
: GHS = Globally Harmonized System of Classification and Labelling of Chemicals
: IATA = International Air Transport Association
: IBC = Intermediate Bulk Container
: IMDG = International Maritime Dangerous Goods
: LogPow = logarithm of the octanol/water partition coefficient
: MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
: NOHSC = National Occupational Health and Safety Commission
: SUSMP = Standard Uniform Schedule of Medicine and Poisons
: UN = United Nations

Procedure used to derive the classification

Classification	Justification
Perfluorotributylamine -PFTBA- GC-MS Standard Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335	Expert judgment Expert judgment Expert judgment
Benzophenone in isooctane, 100 pg/μl Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Expert judgment Calculation method Calculation method
OFN in Isooctane, 1 pg/μl Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Expert judgment Calculation method Calculation method
GC/MS Checkout Sample, 10 ng/ul Flam. Liq. 2, H225 Skin Irrit. 2, H315 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	On basis of test data Calculation method Calculation method Expert judgment Calculation method Calculation method

Section 16. Any other relevant information

References : Not available.

✔ Indicates information that has changed from previously issued version.

Notice to reader

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