

SAFETY DATA SHEET

Electron Capture Detector Sample Agilent PN 5183-0379

Date of issue : 03/04/2009

Version : 2

1. Identification of the substance/preparation and company/undertaking

Identification of the substance or preparation

Product name : Electron Capture Detector Sample Agilent PN 5183-0379
Part No. : 5183-0379
Use of the substance/preparation : 3x0.5 ml. ampoules/package

Company/undertaking identification

Manufacturer / Supplier : Agilent Technologies Manufacturing GmbH & Co. KG
 Hewlett-Packard-Str. 8
 76337 Waldbronn
 Germany

e-mail address of person responsible for this SDS : pdl-msds_author@agilent.com

Emergency telephone number : Contact your local Poison Center
 +49 7243 602 2200 (Information Telephone Number)

2. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F; R11
 Xn; R65
 Xi; R38
 R67
 N; R50/53

Physical/chemical hazards : Highly flammable.

Human health hazards : Harmful: may cause lung damage if swallowed. Irritating to skin. Vapours may cause drowsiness and dizziness.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

See section 11 for more detailed information on health effects and symptoms.

3. Composition/information on ingredients

Substance/preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Europe 2,2,4-Trimethylpentane	540-84-1	99.99	208-759-1	F; R11 [1] [2] Xn; R65 Xi; R38 R67 N; R50/53
Gamma-HCH or gamma-BHC	58-89-9	0.01	200-401-2	T; R25 [1] [2] Xn; R20/21, R48/22 R64 N; R50/53

See section 16 for the full text of the R-phrases declared above

[1] Substance classified with a health or environmental hazard

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3. Composition/information on ingredients

[2] Substance with a workplace exposure limit

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

4. First-aid measures

Inhalation	: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if adverse health effects persist or are severe.
Ingestion	: If swallowed, do not induce vomiting. Never give anything by mouth to an unconscious person. Aspiration hazard if swallowed. Can enter lungs and cause damage. Get medical attention if adverse health effects persist or are severe.
Skin contact	: In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention if adverse health effects persist or are severe.
Eye contact	: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if adverse health effects persist or are severe.
Notes to physician	: No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

See section 11 for more detailed information on health effects and symptoms.

5. Fire-fighting measures

Extinguishing media

Suitable	: Use dry chemical, CO ₂ , water spray (fog) or foam.
Not suitable	: Do not use water jet.
Special exposure hazards - Explosibility	: Highly flammable liquid. 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. Runoff to sewer may create fire or explosion hazard.
Special exposure hazards - fire	: 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. This material is very toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
Hazardous thermal decomposition products	: Decomposition products may include the following materials: carbon oxides
Special protective equipment for fire-fighters	: Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions	: 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 (see section 8).
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6. Accidental release measures

Environmental precautions : 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.

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

Handling : Avoid contact with eyes. Keep container closed. Use only with adequate ventilation. Avoid breathing vapour or mist. Keep away from heat, sparks and flame. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Wash thoroughly after handling.

Storage : 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. 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.

Packaging materials

Recommended : Use original container.

8. Exposure controls/personal protection

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
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Europe	
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2,2,4-Trimethylpentane	
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	ACGIH TLV (United States, 2008).
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	TWA: 300 ppm
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Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to European Standard EN 689 for methods for the assessment of exposure by inhalation to chemical agents and national guidance documents for methods for the determination of hazardous substances.

Exposure controls

Occupational exposure 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. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

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8. Exposure controls/personal protection

- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 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.
- Eye 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.
- Skin 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.
- 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.
- 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.

9. Physical and chemical properties

General information

Appearance

- Physical state** : Liquid.
- Colour** : Clear. Colourless.
- Odour** : Gasoline-like

Important health, safety and environmental information

- pH** : Not applicable.
- Boiling point** : 99.2°C (210.6°F)
- Melting point** : -107°C (-160.6°F)
- Flash point** : Open cup: 4.5°C (40.1°F).
- Explosion limits** : Lower: 1.1% Upper: 6%
- Vapour pressure** : 5.5 kPa (41 mm Hg) (at 20°C)
- Solubility** : Insoluble in the following materials: cold water and hot water.
- Vapour density** : 3.93 (Air = 1)
- Evaporation rate (butyl acetate = 1)** : 3.63 (2,2,4-Trimethylpentane) compared with Butyl acetate.
- Auto-ignition temperature** : 418°C (784.4°F)

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10. Stability and reactivity

Stability : The product is stable. Under normal conditions of storage and use, hazardous polymerisation will not occur.
Conditions to avoid : When exposed to high temperatures, may produce hazardous decomposition products, such as carbon monoxide and dioxide, smoke, oxides of nitrogen etc.
Materials to avoid : Highly reactive or incompatible with the following materials: oxidizing materials.
Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11. Toxicological information

Potential acute health effects

Inhalation : Vapours may cause drowsiness and dizziness.
Ingestion : Aspiration hazard if swallowed. Can enter lungs and cause damage. Irritating to mouth, throat and stomach.
Skin contact : Irritating to skin.
Eye contact : May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2,4-Trimethylpentane	LD50 Oral	Rat	>2500 mg/kg	-
	LC50 Inhalation	Rat	47.4 mg/l	1 hours
	Vapour			

Potential chronic health effects

Chronic effects : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
Ingestion : Adverse symptoms may include the following:
nausea or vomiting
skin : Adverse symptoms may include the following:
irritation
redness
Eyes : No specific data.
Target organs : Not available.
Other adverse effects : Not available.

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12. Ecological information

Environmental effects : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Other ecological information

Product/ingredient name	Test	Result	Dose	Inoculum
2,2,4-Trimethylpentane	-	0 to 84 % - 8 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
2,2,4-Trimethylpentane	-	-	Inherent

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2,2,4-Trimethylpentane	4.5	-	high

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




13. Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

14. Transport information

International transport regulations

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
ADR Class	UN1262	OCTANES	3	II		Hazard identification number 33 Limited quantity LQ4 CEFIC Tremcard 30S1262
IMDG Class	UN1262	OCTANES	3	II		Emergency schedules (EmS) F-E, S-E
IATA Class	UN1262	Octanes	3	II		Passenger and Cargo Aircraft Quantity limitation: 5 L Packaging instructions: 305 Cargo Aircraft Only Quantity limitation: 60 L Packaging instructions:

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14. Transport information

						307 Limited Quantities - Passenger Aircraft Quantity limitation: 1 L Packaging instructions: Y305 Remarks A44 Excepted Quantity
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PG* : Packing group

15. Regulatory information

EU regulations

Hazard symbol or symbols : F - Highly flammable
Xn - Harmful
N - Dangerous for the environment

Risk phrases : R11- Highly flammable.
R65- Harmful: may cause lung damage if swallowed.
R38- Irritating to skin.
R67- Vapours may cause drowsiness and dizziness.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases : S9- Keep container in a well-ventilated place.
S16- Keep away from sources of ignition - No smoking.
S36- Wear suitable protective clothing.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

Product use : Industrial applications.

16. Other information

Full text of R-phrases referred to in sections 2 and 3 - Europe : R11- Highly flammable.
R25- Toxic if swallowed.
R20/21- Harmful by inhalation and in contact with skin.
R48/22- Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R65- Harmful: may cause lung damage if swallowed.
R38- Irritating to skin.
R64- May cause harm to breastfed babies.
R67- Vapours may cause drowsiness and dizziness.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Full text of classifications referred to in sections 2 and 3 - Europe : F - Highly flammable
T - Toxic
Xn - Harmful
Xi - Irritant
N - Dangerous for the environment

History

Date of issue : 03/04/2009
Date of previous issue : 08/11/2006
Version : 2

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16. Other information

Notice to reader

DISCLAIMER: *This information is based on our present state of knowledge. It should not therefore be construed as guaranteeing the suitability of the Product for a particular application.*