Conforms to ANSI Z400.1 Standard (United States)

Material Safety Data Sheet

Agilent Technologies

ID 1

1. Product and company identification

This product is considered an article. This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article.

Product name : ID 1

Material uses : Analytical chemistry.
860 µl (96812096)
3500 µl (96812396)
250 µl (190350696)
2100 µl (190350896)
450 µl (190835396)
42 µl (190636196, 190887096)
71 µl (191120796)
1400 µl (192129796)

Supplier/Manufacturer : Agilent Technologies, Inc.
Logistics Center - Americas
500 Ships Landing Way
New Castle, Delaware 19720
800-227-9770

Part No. : 96812096, 96812396, 190350696, 190350896, 190636196, 190835396, 190887096, 191120796, 192129796

Validation date : 06/12/2012

In case of emergency : Chemtrec: 1-800-424-9300

2. Hazards identification

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Physical state : Liquid.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview

Signal word : WARNING!

Hazard statements : HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Precautions : Avoid exposure - obtain special instructions before use. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Can cause central nervous system (CNS) depression. Irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Ingestion : Toxic if swallowed. Can cause central nervous system (CNS) depression.

Skin : Toxic in contact with skin. Irritating to skin.

Eyes : Irritating to eyes.

Potential chronic health effects

Chronic effects : Contains material that may cause target organ damage, based on animal data.

2. Hazards identification

Carcinogenicity : Contains material which may cause cancer. Risk of cancer depends on duration and level of exposure.

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.

Target organs : Contains material which may cause damage to the following organs: kidneys, lungs, the nervous system, the reproductive system, liver, heart, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
nausea or vomiting
respiratory tract irritation
coughing
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
irritation
redness

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

See toxicological information (Section 11)

3. Composition/information on ingredients

This article, when used under reasonable conditions and in accordance with the directions for use, should not present a health hazard. The substance or mixture is encapsulated in the article. Only if released due to use or processing of the article in a manner not in accordance with the product's directions for use it may present potential health and safety hazards.

Name	CAS number	%
(^{2}H)Chloroform	865-49-6	60 - 100
Iodomethane (^{13} C)	4227-95-6	0.1 - 1
Trimethyl phosphite	121-45-9	0.1 - 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.

4. First aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

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 immediately.

Inhalation : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

4. First aid measures

Ingestion : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Protection of first-aiders : 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. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : In a fire or if heated, a pressure increase will occur and the container may burst.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : No action shall be taken involving any personal risk or without suitable training.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
phosphorus oxides
halogenated compounds
carbonyl halides

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 spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled 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).

Methods for cleaning up : 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.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). 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. Avoid exposure - obtain special instructions before use. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. 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.

Storage : 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

Since the hazardous ingredient in this article is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Ingredient	Exposure limits
(^{2}H)Chloroform	**ACGIH TLV (United States, 1/2011).** TWA: 10 ppm 8 hour(s). TWA: 49 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 2 ppm 8 hour(s). TWA: 9.78 mg/m³ 8 hour(s). **NIOSH REL (United States, 6/2009).** STEL: 2 ppm 60 minute(s). STEL: 9.78 mg/m³ 60 minute(s). **OSHA PEL (United States, 6/2010).** CEIL: 50 ppm CEIL: 240 mg/m³
Iodomethane (^{13} C)	**ACGIH TLV (United States, 2/2010). Absorbed through skin.** TWA: 2 ppm 8 hour(s). **OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.** TWA: 2 ppm 8 hour(s). TWA: 10 mg/m³ 8 hour(s). **NIOSH REL (United States, 6/2009). Absorbed through skin.** TWA: 2 ppm 10 hour(s). TWA: 10 mg/m³ 10 hour(s). **OSHA PEL (United States, 6/2010). Absorbed through skin.** TWA: 5 ppm 8 hour(s). TWA: 28 mg/m³ 8 hour(s).
Trimethyl phosphite	**ACGIH TLV (United States, 1/2011).** TWA: 2 ppm 8 hour(s). TWA: 10 mg/m³ 8 hour(s). **OSHA PEL 1989 (United States, 3/1989).** TWA: 2 ppm 8 hour(s). TWA: 10 mg/m³ 8 hour(s). **NIOSH REL (United States, 6/2009).** TWA: 2 ppm 10 hour(s). TWA: 10 mg/m³ 10 hour(s).

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.

Engineering measures : 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.

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.

Personal protection

Respiratory : 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.

Hands : 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.

Eyes : 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 or dusts.

Skin : 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.

8. Exposure controls/personal protection

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.

Other protection : Not available.

9. Physical and chemical properties

Physical state : Liquid.

Flash point : Not available.

Auto-ignition temperature : Not available.

Flammable limits : Not available.

Color : Not available.

Odor : Not available.

pH : Not available.

Boiling/condensation point : 60.9°C (141.6°F)

Melting/freezing point : -64°C (-83.2°F)

Specific gravity : 1.5

Vapor pressure : Not available.

Vapor density : Not available.

Odor threshold : Not available.

Evaporation rate : Not available.

Solubility : Very slightly soluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : No specific data.

Materials to avoid : Reactive or incompatible with the following materials: oxidizing materials, metals and alkalis.
Sensitive to light. Hygroscopic. Keep container tightly closed.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
(^{2}H)Chloroform	LC50 Inhalation Vapor	Rat	47702 mg/m3	4 hours
	LD50 Dermal	Rabbit	>20 g/kg	-
	LD50 Oral	Rat	300 mg/kg	-
Iodomethane (^{13} C)	LC50 Inhalation Vapor	Rat	1300 mg/m3	4 hours
	LD50 Oral	Rat	76 mg/kg	-
Trimethyl phosphite	LC50 Inhalation Vapor	Rat	182000 mg/m3	1 hours
	LD50 Dermal	Rabbit	933.8 mg/kg	-
	LD50 Oral	Rat	1350 mg/kg	-

Chronic toxicity

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation

11. Toxicological information

Iodomethane (^{13}C)	Eyes - Severe irritant	Rabbit	-	-	-
	Skin - Mild irritant	Rat	-	-	-
	Skin - Severe irritant	Rabbit	-	-	-
Trimethyl phosphite	Eyes - Mild irritant	Rabbit	-	0.1 Mililiters	-
	Skin - Severe irritant	Rabbit	-	500 milligrams	-

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
(^{2}H)Chloroform	A3	2B	-	+	Possible	-
Iodomethane (^{13}C)	-	3	-	+	-	-

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : This material is harmful to aquatic life. May cause long-term adverse effects in the aquatic environment.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
(^{2}H)Chloroform	Acute EC50 13.3 mg/L Fresh water	Algae - Chlamydomonas reinhardtii - Exponential growth phase - 7 days	72 hours
	Acute LC50 81.5 mg/L Marine water	Crustaceans - Penaeus duorarum - 35 to 50 mm	48 hours
	Acute LC50 29000 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	48 hours
	Acute LC50 13300 ug/L Fresh water	Fish - Lepomis macrochirus - 17.1 cm - 126.4 g	96 hours
	Chronic NOEC 6300 ug/L Fresh water	Daphnia - Daphnia magna - <=24 hours	21 days

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

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. 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. 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.

13. Disposal considerations

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

This Material Safety Data Sheet is written based on the encapsulated substance or mixture in this article. Since the hazardous ingredient is encapsulated, the risk of exposure by inhalation, ingestion, skin contact and eyes contact is minimum.

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
DOT	UN2810	Toxic, liquids, organic, n.o.s. ((^{2} H)Chloroform)	6.1	III		**Limited quantity** Yes. **Packaging instruction** **Passenger aircraft** Quantity limitation: 60 L **Cargo aircraft** Quantity limitation: 220 L **Special provisions** IB3, T7, TP1, TP28, T1
IMDG	UN2810	TOXIC LIQUID, ORGANIC, N.O.S. ((^{2} H)Chloroform)	6.1	III		**Emergency schedules (EmS)** F-A, S-A
IATA	UN2810	Toxic liquid, organic, n.o.s. ((^{2} H)Chloroform)	6.1	III		**Passenger and Cargo Aircraft** Quantity limitation: 60 L Packaging instructions: 655 **Cargo Aircraft Only** Quantity limitation: 220 L Packaging instructions: 663 **Limited Quantities - Passenger Aircraft** Quantity limitation: 2 L Packaging instructions: Y642

PG* : Packing group

15. Regulatory information

HCS Classification : Toxic material
Irritating material
Carcinogen
Target organ effects

U.S. Federal regulations : **TSCA 8(a) IUR**: Not determined

Commerce control list precursor: Trimethyl phosphite

United States inventory (TSCA 8b): Not determined.

SARA 302/304/311/312 extremely hazardous substances: (^{2}H)Chloroform
SARA 302/304 emergency planning and notification: (^{2}H)Chloroform
SARA 302/304/311/312 hazardous chemicals: (^{2}H)Chloroform; Iodomethane (^{13} C); Trimethyl phosphite
SARA 311/312 MSDS distribution - chemical inventory - hazard identification: (^{2} H)Chloroform: Immediate (acute) health hazard, Delayed (chronic) health hazard; Iodomethane (^{13} C): Immediate (acute) health hazard, Delayed (chronic) health hazard; Trimethyl phosphite: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Water Act (CWA) 307: Chromium(III) 4-oxopent-2-ene-2-olate

Clean Air Act Section 112(b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 313

	Product name	CAS number	Concentration
Form R - Reporting requirements	(^{2}H)Chloroform Iodomethane (^{13} C)	865-49-6 4227-95-6	60 - 100 0.1 - 1
Supplier notification	(^{2}H)Chloroform Iodomethane (^{13} C)	865-49-6 4227-95-6	60 - 100 0.1 - 1

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: TRIMETHYL PHOSPHITE

New York : None of the components are listed.

New Jersey : The following components are listed: TRIMETHYL PHOSPHITE; PHOSPHOROUS ACID, TRIMETHYL ESTER

Pennsylvania : The following components are listed: PHOSPHOROUS ACID, TRIMETHYL ESTER

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
(^{2}H)Chloroform	Yes.	Yes.	20 µg/day (ingestion) 40 µg/day (inhalation)	No.
Iodomethane (^{13} C)	Yes.	No.	No.	No.

15. Regulatory information

16. Other information

Label requirements : HARMFUL IF ABSORBED THROUGH SKIN OR IF SWALLOWED. INHALATION CAUSES HEADACHES, DIZZINESS, DROWSINESS AND NAUSEA AND MAY LEAD TO UNCONSCIOUSNESS. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA. SUSPECT CANCER HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE CANCER.

Date of issue : 06/12/2012

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Version : 2

Indicates information that has changed from previously issued version.

Notice to reader

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