

Material Safety Data Sheet



High Concentration Na ICP-MS standard, Part Number 5190-0478

1. Product and company identification

Product name	: High Concentration Na ICP-MS standard, Part Number 5190-0478
Material uses	: Analytical chemistry.
Supplier/Manufacturer	: Agilent Technologies, Inc. Logistics Center - Americas 500 Ships Landing Way New Castle, Delaware 19720
Part No.	: 5190-0478
Validation date	: 07/16/2010
In case of emergency	: 1-302-633-8777 1-877-4 Agilent (Information Telephone Number)

2. Hazards identification

Physical state	: Liquid.
Odor	: Characteristic.
Emergency overview	
Signal word	: DANGER!
Hazard statements	: CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
Precautions	: 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.
Routes of entry	: Not available.
Potential acute health effects	
Inhalation	: Corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
Ingestion	: Corrosive to the digestive tract. Causes burns.
Skin	: Corrosive to the skin. Causes burns.
Eyes	: Corrosive to eyes. Causes burns.
Potential chronic health effects	
Chronic effects	: Contains material that may cause target organ damage, based on animal data.
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.
Target organs	: Contains material which may cause damage to the following organs: lungs, mucous membranes, upper respiratory tract, skin, eye, lens or cornea, teeth.
Over-exposure signs/symptoms	
Inhalation	: Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	: Adverse symptoms may include the following: stomach pains
Skin	: Adverse symptoms may include the following: pain or irritation redness blistering may occur

2. Hazards identification

- Eyes** : Adverse symptoms may include the following:
pain
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

Name	CAS number	%
Nitric acid	7697-37-2	1 - 5

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.
- 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** : 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.

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:
nitrogen 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.
- Special remarks on explosion hazards** : Not considered to be a product presenting a risk of explosion.

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. 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

Occupational exposure limits		TWA (8 hours)			STEL (15 mins)			Ceiling			
Ingredient	List name	ppm	mg/m³	Other	ppm	mg/m³	Other	ppm	mg/m³	Other	Notations
Nitric acid	US ACGIH 1/2009	2	5.2	-	4	10	-	-	-	-	
	AB 4/2009	2	5.2	-	4	10	-	-	-	-	
	BC 10/2009	2	-	-	4	-	-	-	-	-	
	ON 8/2008	2	5	-	4	10	-	-	-	-	
	QC 6/2008	2	5.2	-	4	10	-	-	-	-	

Consult local authorities for acceptable exposure limits.

- 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. If user operations generate dust, fumes, gas, vapor or mist, 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.

8. Exposure controls/personal protection

- 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.
- 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** : Characteristic.
- pH** : Not available.
- Boiling/condensation point** : Not available.
- Melting/freezing point** : Not available.
- Specific gravity** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Odor threshold** : Not available.
- Evaporation rate** : Not available.
- Solubility** : 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, reducing materials, combustible materials, metals, acids and alkalis.
Slightly reactive or incompatible with the following materials: organic materials.
- 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

- Conclusion/Summary** : Not available.

Chronic toxicity

- Conclusion/Summary** : Not available.

Irritation/Corrosion

- Conclusion/Summary** : Not available.

11. Toxicological information

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Synergistic products : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
Nitric acid	Acute LC50 180000 ug/L Marine water	Crustaceans - Carcinus maenas - Adult	48 hours

Octanol/water partition coefficient : Not available.

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. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. 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 spilled material and runoff and contact with soil, waterways, drains and sewers.

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

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
TDG	UN2031	NITRIC ACID solution	8	II		<u>Explosive Limit and Limited Quantity Index</u> 0.5 <u>Passenger Carrying Ship Index</u>

14. Transport information

						Forbidden Passenger Carrying Road or Rail Index Forbidden
IMDG	UN2031	NITRIC ACID solution	8	II		Emergency schedules (EmS) F-A, S-B
IATA	UN2031	Nitric acid solution	8	II		Passenger and Cargo Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden Cargo Aircraft Only Quantity limitation: 30 L Packaging instructions: 813 Limited Quantities - Passenger Aircraft Quantity limitation: Forbidden Packaging instructions: Forbidden

PG* : Packing group

15. Regulatory information

- WHMIS (Canada)** : Class E: Corrosive material
Canadian lists
Canadian NPRI : The following components are listed: Nitric acid
CEPA Toxic substances : None of the components are listed.
Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.

16. Other information

- Label requirements** : CAUSES RESPIRATORY TRACT, DIGESTIVE TRACT, EYE AND SKIN BURNS. CONTAINS MATERIAL THAT MAY CAUSE TARGET ORGAN DAMAGE, BASED ON ANIMAL DATA.
- Date of issue** : 07/16/2010
Date of previous issue : No previous validation.
Version : 1

☑ Indicates information that has changed from previously issued version.

Notice to reader

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