

Safety Data Sheet

acc. to OSHA HCS

Revision date: 06/01/2026

1 Identification

- **Product identifier**
- **Product Name:** EM 200.8 Tuning Standard (125 mL)
- **Part no. :** ICM-820
- **Application of the substance / the mixture** Reagents and Standards for Analytical Chemical Laboratory Use
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Agilent Technologies, Inc.
5301 Stevens Creek Blvd.
Santa Clara, CA 95051 USA
- **Information department:**
Telephone: 800-227-9770
e-mail: pdl-msds_author@agilent.com
- **Emergency telephone number:** CHEMTREC®: 1-800-424-9300

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS06 Skull and crossbones

Acute toxicity - inhalation 3 H331 Toxic if inhaled.



GHS08 Health hazard

Carcinogenicity 1A H350 May cause cancer.



GHS05 Corrosion

Corrosive to metals 1 H290 May be corrosive to metals.



GHS07

Skin irritation 2 H315 Causes skin irritation.

Eye irritation 2A H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms**



GHS05



GHS06



GHS08

- **Signal word** Danger

(Contd. on page 2)

US

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 1)

· Hazard-determining components of labeling:

nitric acid
acetic acid beryllium salt

· Hazard statements

H290 May be corrosive to metals.
H331 Toxic if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H350 May cause cancer.

· Precautionary statements

P261 Avoid breathing vapors.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P234 Keep only in original packaging.
P264 Wash thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P321 Specific treatment (see on this label).
P304+P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P302+P352 If on skin: Wash with plenty of water.
P390 Absorb spillage to prevent material damage.
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P362+P364 Take off contaminated clothing and wash it before reuse.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in a corrosion resistant container / container with a resistant inner liner.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Information pertaining to particular dangers for man and environment:
· Classification system:
· NFPA ratings (scale 0 - 4)

· HMIS-ratings (scale 0 - 4)

· Other hazards
· Results of PBT and vPvB assessment

· **PBT:** Not applicable
· **vPvB:** Not applicable

· Classification according to (d)(1)(ii) of § 1910.1200

The SDS issuer does not object to the classifications provided by importers or manufacturers of precursor products.

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 2)

· **Hazards not otherwise classified**

There are no adverse physical or health effects known that are not covered by the hazard classes of the Hazard Communications Standard.

3 Composition/information on ingredients· **Chemical characterization: Mixtures**· **Description:** Mixture of the substances listed below with nonhazardous additions.· **Dangerous components:**

7697-37-2	nitric acid	1.98%
543-81-7	acetic acid beryllium salt	0.141%

4 First-aid measures· **Description of first aid measures**· **General information:**

Immediately remove any clothing soiled by the product.

Remove breathing apparatus only after contaminated clothing have been completely removed.

In case of irregular breathing or respiratory arrest provide artificial respiration.

· **After inhalation:**

Supply fresh air or oxygen; call for doctor.

In case of unconsciousness place patient stably in side position for transportation.

· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.· **After eye contact:**

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· **After swallowing:** If symptoms persist consult doctor.· **Most important symptoms and effects, both acute and delayed** No further relevant information available.· **Indication of any immediate medical attention and special treatment needed**

No further relevant information available.

5 Fire-fighting measures· **Extinguishing media**· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.· **Special hazards arising from the substance or mixture** No further relevant information available.· **Advice for firefighters**· **Protective equipment:** Mouth respiratory protective device.**6 Accidental release measures**· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

· **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.· **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Use neutralizing agent.

Dispose contaminated material as waste according to section 13.

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 3)

Ensure adequate ventilation.

· Protective Action Criteria for Chemicals
· PAC-1:

7697-37-2	nitric acid	0.16 ppm
13446-18-9	magnesium nitrate hexahydrate	16 mg/m3
10026-22-9	cobalt (II) nitrate hexahydrate	0.30 mg/m3
10099-74-8	lead dinitrate	0.24 mg/m3
1312-43-2	diindium trioxide	22 mg/m3

· PAC-2:

7697-37-2	nitric acid	24 ppm
13446-18-9	magnesium nitrate hexahydrate	180 mg/m3
10026-22-9	cobalt (II) nitrate hexahydrate	23 mg/m3
10099-74-8	lead dinitrate	180 mg/m3
1312-43-2	diindium trioxide	240 mg/m3

· PAC-3:

7697-37-2	nitric acid	92 ppm
13446-18-9	magnesium nitrate hexahydrate	1100 mg/m3
10026-22-9	cobalt (II) nitrate hexahydrate	140 mg/m3
10099-74-8	lead dinitrate	1100 mg/m3
1312-43-2	diindium trioxide	1400 mg/m3

· Reference to other sections

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage

· Precautions for safe handling

Ensure good ventilation/exhaustion at the workplace.

Open and handle receptacle with care.

Prevent formation of aerosols.

· Information about protection against explosions and fires: Keep respiratory protective device available.

· Conditions for safe storage, including any incompatibilities
· Storage:
· Requirements to be met by storerooms and receptacles: No special requirements.

· Information about storage in one common storage facility: Not required

· Further information about storage conditions: Keep receptacle tightly sealed.

· Specific end use(s) No further relevant information available.

8 Exposure controls/personal protection

· Control parameters
· Components with limit values that require monitoring at the workplace:

The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 4)

At this time, the remaining constituent has no known exposure limits.

7697-37-2 nitric acid

PEL	Long-term value: 5 mg/m ³ , 2 ppm
REL	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5 mg/m ³ , 2 ppm
TLV	Short-term value: 10 mg/m ³ , 4 ppm Long-term value: 5.2 mg/m ³ , 2 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Appropriate engineering controls** No further data; see section 7.
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.
- **Breathing equipment:**
When used as intended with Agilent instruments, the use of the product under normal laboratory conditions and with standard practices does not result in significant airborne exposures and therefore respiratory protection is not needed.
Under an emergency condition where a respirator is deemed necessary, use a NIOSH or equivalent approved device/equipment with appropriate organic or acid gas cartridge.
- **Protection of hands:**
Although not recommended for constant contact with the chemicals or for clean-up, nitrile gloves 11-13 mil thickness are recommended for normal use. The breakthrough time is 1 hr. For cleaning a spill where there is direct contact of the chemical, butyl rubber gloves are recommended 12-15 mil thickness with breakthrough times exceeding 4 hrs. Supplier recommendations should be followed.
- **Material of gloves**
For normal use: nitrile rubber, 11-13 mil thickness
For direct contact with the chemical: butyl rubber, 12-15 mil thickness
- **Penetration time of glove material**
For normal use: nitrile rubber: 1 hour
For direct contact with the chemical: butyl rubber: >4 hours
- **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Physical state** Liquid
- **Color:** Colorless
- **Odor:** Odorless

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 5)

· Odor threshold:	Not determined
· Melting point/Melting range:	0 °C (32 °F)
· Boiling point/Boiling range:	100 °C (212 °F)
· Flammability:	Not applicable
· Explosion limits:	
· Lower:	Not determined
· Upper:	Not determined
· Flash point:	Not applicable
· Decomposition temperature:	Not determined
· pH-value:	Not determined
· Viscosity:	
· Kinematic:	Not determined
· Dynamic at 20 °C (68 °F):	0.952 mPas
· Solubility in / Miscibility with	
· Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/water):	Not determined
· Vapor pressure at 20 °C (68 °F):	23 hPa (17.3 mm Hg)
· Vapor pressure:	
· Density at 20 °C (68 °F):	1 g/cm ³ (8.345 lbs/gal)
· Relative density	Not determined
· Vapor density	Not determined
· Particle characteristics	Not applicable

· Other information	
· Appearance:	
· Form:	Fluid
· Important information on protection of health and environment, and on safety.	
· Ignition temperature:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Solvent content:	
· Water:	97.7 %
· VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
· Solids content:	0.3 %
· Change in condition	
· Evaporation rate	Not determined

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

US
(Contd. on page 7)

Safety Data Sheet

acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 6)

11 Toxicological information

· Information on toxicological effects

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)

Inhalative	LC50/4 h	2.53 mg/L
------------	----------	-----------

7697-37-2 nitric acid

Inhalative	LC50/4 h	67 mg/L (rat)
------------	----------	---------------

· Primary irritant effect:

· **on the skin:** Irritant to skin and mucous membranes.

· **on the eye:** Irritating effect.

· **Sensitization:** No sensitizing effects known.

· Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

Toxic

Irritant

· **Interactive effects** No interactive effects between components are known.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

543-81-7	acetic acid beryllium salt	1
10026-22-9	cobalt (II) nitrate hexahydrate	2B
10099-74-8	lead dinitrate	2A

· NTP (National Toxicology Program)

543-81-7	acetic acid beryllium salt	K
10099-74-8	lead dinitrate	R

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Alternative sources for toxicological information

No non-standard sources for toxicological information where used.

12 Ecological information

· Toxicity

· **Aquatic toxicity:** No further relevant information available.

· **Persistence and degradability** No further relevant information available.

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· Results of PBT and vPvB assessment

· **PBT:** Not applicable

· **vPvB:** Not applicable

· Other adverse effects

· Additional ecological information:

· General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

(Contd. on page 8)

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

(Contd. of page 7)

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Dispose of contents/container in accordance with local/regional/national/international regulations.
Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- | | |
|---|---|
| · UN-Number | UN3264 |
| · DOT, IMDG, IATA | |
| · UN proper shipping name | Corrosive liquid, acidic, inorganic, n.o.s. (Nitric acid) |
| · DOT | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. |
| · IMDG, IATA | (NITRIC ACID) |
| · Transport hazard class(es) | |
| · DOT | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · IMDG, IATA | |
|  | |
| · Class | 8 Corrosive substances |
| · Label | 8 |
| · Packing group | III |
| · DOT, IMDG, IATA | |
| · Environmental hazards: | Not applicable |
| · Transport in bulk according to Annex II of MARPOL/73/78 and the IBC Code | Not applicable |
| · Transport/Additional information: | |
| · DOT | |
| · Quantity limitations | On passenger aircraft/rail: 5 L
On cargo aircraft only: 60 L |

(Contd. on page 9)

Safety Data Sheet acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 8)

· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Special precautions for user	Warning: Corrosive substances
· Hazard identification number (Kemler code):	80
· EMS Number:	F-A,S-B
· Segregation groups	(SGG1) Acids
· Stowage Category	A
· Stowage Code	SW2 Clear of living quarters.
· UN "Model Regulation":	UN 3264 CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (NITRIC ACID), 8, III

15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

· Section 355 (extremely hazardous substances):

7697-37-2	nitric acid
-----------	-------------

· Section 313 (Specific toxic chemical listings):

7697-37-2	nitric acid
543-81-7	acetic acid beryllium salt
13446-18-9	magnesium nitrate hexahydrate
10026-22-9	cobalt (II) nitrate hexahydrate
10099-74-8	lead dinitrate

· TSCA (Toxic Substances Control Act):

7732-18-5	water	ACTIVE
7697-37-2	nitric acid	ACTIVE
10099-74-8	lead dinitrate	ACTIVE
1312-43-2	diindium trioxide	ACTIVE

· Hazardous Air Pollutants

10026-22-9	cobalt (II) nitrate hexahydrate
10099-74-8	lead dinitrate

· Clean Air Act Substances - Class I ODS

None of the ingredients is listed.

· Clean Air Act Substances - Class II ODS

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

543-81-7	acetic acid beryllium salt
10099-74-8	lead dinitrate

(Contd. on page 10)

Safety Data Sheet

acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 9)

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

· Carcinogenic categories
· EPA (Environmental Protection Agency)

10099-74-8 | lead dinitrate

B2

· TLV (Threshold Limit Value)

10099-74-8 | lead dinitrate

A3

· NIOSH-Ca (National Institute for Occupational Safety and Health)

543-81-7 | acetic acid beryllium salt

· National regulations:
· Additional classification according to Decree on Hazardous Materials:

Carcinogenic hazardous material group III (dangerous).

· Information about limitation of use:

Workers are not allowed to be exposed to the hazardous carcinogenic materials contained in this preparation.
Exceptions can be made by the authorities in certain cases.

· Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information

The information contained in this document is based on Agilent's state of knowledge at the time of preparation.
No warranty as to its accurateness, completeness or suitability for a particular purpose is expressed or implied.

· Department issuing SDS: Document Control / Regulatory

· Contact: pdl-acg-regulatory-cq@agilent.com

· Date of previous version: 03/28/2025

· Version number of previous version: 5

· Date of preparation: 06/01/2026

· Abbreviations and acronyms:

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Revision date: 06/01/2026

Product Name: EM 200.8 Tuning Standard (125 mL)

(Contd. of page 10)

REL: Recommended Exposure Limit

Corrosive to metals 1: Corrosive to metals – Category 1

Acute toxicity - inhalation 3: Acute toxicity – Category 3

Skin irritation 2: Skin corrosion/irritation – Category 2

Eye irritation 2A: Serious eye damage/eye irritation – Category 2A

Carcinogenicity 1A: Carcinogenicity – Category 1A

· *** Data compared to the previous version altered.**

US