

Revision date 08/23/2024

### 1 Identification

· Product identifier

· Product Name: Intermediate Stock Standard no. 1 (1X1 mL)

· Part number: NAIM-833A-1

· 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



GHS02 Flame

Flammable Liquids 2 H225 Highly flammable liquid and vapor.



GHS06 Skull and crossbones

Acute Toxicity - Dermal 3 H311 Toxic in contact with skin.



GHS08 Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.

Toxic to Reproduction 1B H360 May damage fertility or the unborn child.



Acute Toxicity - Oral 4 H302 Harmful if swallowed. Acute Toxicity - Inhalation 4 H332 Harmful if inhaled.

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





GHS07



GHS07



GHS02

GHS06

CHS

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#### · Signal word Danger

#### · Hazard-determining components of labeling:

acetonitrile nitrobenzene

1,3,5-trinitrobenzene

2,4-dinitrotoluene

#### · Hazard statements

H225 Highly flammable liquid and vapor. H302+H332 Harmful if swallowed or if inhaled. H311 Toxic in contact with skin.

H319 Causes serious eye irritation.H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.

#### · Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.

P233 Keep container tightly closed. P242 Use only non-sparking tools.

P243 Take precautionary measures against static discharge.

P264 Wash thoroughly after handling.

P270 Do not eat, drink or smoke when using this product.
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.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P321 Specific treatment (see on this label).

P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P308+P313 IF exposed or concerned: Get medical advice/attention. P337+P313 If eye irritation persists: Get medical advice/attention.

P330 Rinse mouth.

P370+P378 In case of fire: Use CO2, powder or water spray to extinguish.

P361+P364 Take off immediately all contaminated clothing and wash it before reuse.

P405 Store locked up.

P403+P235 Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/container in accordance with local/regional/national/international

regulations.

#### · Classification system:

#### · NFPA ratings (scale 0 - 4)



Health = 2 Fire = 3 Reactivity = 0



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· HMIS-ratings (scale 0 - 4)

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Health = 2Fire = 3

REACTIVITY 0 Reactivity = 0

- · Other hazards
- · Results of PBT and vPvB assessment
- **PBT:** Not applicable. · vPvB: Not applicable.

## 3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- **Description:** Mixture of the substances listed below with nonhazardous additions.

· Dangerou	· Dangerous components:		
75-05-8	acetonitrile	99.1096%	
98-95-3	nitrobenzene	0.1272%	
99-35-4	1,3,5-trinitrobenzene	0.1272%	
99-65-0	1,3-dinitrobenzene	0.1272%	
118-96-7	2,4,6-trinitrotoluene	0.1272%	
121-14-2	2,4-dinitrotoluene	0.1272%	
121-82-4	perhydro-1,3,5-trinitro-1,3,5-triazine	0.1272%	

#### 4 First-aid measures

- · Description of first aid measures
- · General information:

Immediately remove any clothing soiled by the product.

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

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

· After inhalation:

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist. 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:** Immediately call a doctor.
- · Information for 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.



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#### 5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents:

CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

- · For safety reasons unsuitable extinguishing agents: Water with full jet
- 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).

Dispose contaminated material as waste according to section 13.

Ensure adequate ventilation.

· 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.

· Protective Action Criteria for Chemicals

· PAC-1:		
75-05-8	acetonitrile	13 ppm
98-95-3	nitrobenzene	3 ppm
99-35-4	1,3,5-trinitrobenzene	1.5 mg/m <sup>3</sup>
99-65-0	1,3-dinitrobenzene	3 mg/m³
118-96-7	2,4,6-trinitrotoluene	0.3 mg/m <sup>3</sup>
121-14-2	2,4-dinitrotoluene	0.6 mg/m <sup>3</sup>
121-82-4	perhydro-1,3,5-trinitro-1,3,5-triazine	3 mg/m³
2691-41-0	cyclotetramethylenetetranitramine	19 mg/m³
· PAC-2:		·
75-05-8	acetonitrile	50 ppm
98-95-3	nitrobenzene	20 ppm
99-35-4	1,3,5-trinitrobenzene	16 mg/m <sup>3</sup>
99-65-0	1,3-dinitrobenzene	33 mg/m <sup>3</sup>
118-96-7	2,4,6-trinitrotoluene	17 mg/m <sup>3</sup>
121-14-2	2,4-dinitrotoluene	8.8 mg/m3
121-82-4	perhydro-1,3,5-trinitro-1,3,5-triazine	26 mg/m <sup>3</sup>
2691-41-0	cyclotetramethylenetetranitramine	210 mg/m <sup>3</sup>
· PAC-3:		
75-05-8	acetonitrile	150 ppm
98-95-3	nitrobenzene	200 ppm
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99-35-4	1,3,5-trinitrobenzene	(Contd. of page 4) 54 mg/m <sup>3</sup>
99-65-0	1,3-dinitrobenzene	200 mg/m <sup>3</sup>
118-96-7	2,4,6-trinitrotoluene	1,000 mg/m <sup>3</sup>
121-14-2	2,4-dinitrotoluene	53 mg/m3
121-82-4	perhydro-1,3,5-trinitro-1,3,5-triazine	160 mg/m <sup>3</sup>
2691-41-0	cyclotetramethylenetetranitramine	1,300 mg/m <sup>3</sup>

### 7 Handling and storage

- · Handling:
- · 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 ignition sources away - Do not smoke.

Protect against electrostatic charges.

Keep respiratory protective device available.

- · Conditions for safe storage, including any incompatibilities
- · Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions:

Keep receptacle tightly sealed.

Store in cool, dry conditions in well sealed receptacles.

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

#### 8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see section 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the other constituents have no known exposure limits.

	05-8 acetonitrile Long-term value: 70 mg/m³, 40 ppm	
REL	Long-term value: 34 mg/m³, 20 ppm	
TLV	Long-term value: 20 ppm	
	Skin, A4	
98-9	95-3 nitrobenzene	
PEL	Long-term value: 5 mg/m³, 1 ppm	
	Skin	



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DEL	(Contd. of
	Long-term value: 5 mg/m³, 1 ppm Skin
1LV	Long-term value: 1 ppm Skin; BEIm, A3
99_65	-0 1,3-dinitrobenzene
	Long-term value: 1 mg/m <sup>3</sup>
ובנו	Skin
REL	Long-term value: 1 mg/m <sup>3</sup>
	Skin
TLV	Long-term value: 0.15* ppm
	*inh. fraction + vapor; Skin; BEI-M
118-9	6-7 2,4,6-trinitrotoluene
	Long-term value: 1.5 mg/m <sup>3</sup>
	Skin
REL	Long-term value: 0.5 mg/m <sup>3</sup>
	Skin
TLV	Long-term value: 0.1* mg/m³
121.0	Skin; BEI-M;*inhalable fraction + vapor
	2-4 perhydro-1,3,5-trinitro-1,3,5-triazine
	Short-term value: 3 mg/m³ Long-term value: 1.5 mg/m³
	Skin
	Long-term value: 0.5 mg/m <sup>3</sup>
	Skin, A4
Ingre	dients with biological limit values:
_	-3 nitrobenzene
	5 % of hemoglobin
	Medium: blood
	Time: during or end of shift
]	Parameter: Methemoglobin (background, nonspecific,)
99-65	-0 1,3-dinitrobenzene
	1.5 % of hemoglobin
	Medium: blood
	Time: during or end of shift
	Parameter: Methemoglobin (background, nonspecific, semi-quantitative)
	6-7 2,4,6-trinitrotoluene
	1.5 % of hemoglobin Medium: blood
	Medium: blood Fime: during or end of shift
	Parameter: Methemoglobin (background, nonspecific, semi-quantitative)

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment:
- · General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

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Wash hands before breaks and at the end of work.

Store protective clothing separately.

Avoid contact with the eyes.

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
- · Appearance:

Form: Color: · Odor: · Odor threshold:	Fluid Colorless Aromatic Not determined.
· pH-value:	Not determined.
· Change in condition Melting point/Melting range: Boiling point/Boiling range:	-46 °C (-50.8 °F) 81 °C (177.8 °F)
· Flash point:	2 °C (35.6 °F)
· Flammability (solid, gaseous):	Highly flammable.
· Auto igniting:	525 °C (977 °F)
· Decomposition temperature:	Not determined.
· Ignition temperature:	Product is not selfigniting.

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Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	4.4 Vol %
Upper:	16 Vol %
· Vapor pressure at 20 °C (68 °F):	0 hPa
· Vapor pressure at 50 °C (122 °F):	330 hPa (247.5 mm Hg)
· Density at 20 °C (68 °F):	0.786 g/cm³ (6.55917 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with	
Water:	Not miscible or difficult to mix.
· Partition coefficient (n-octanol/wate	r): Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Solvent content:	
VOC content:	0.00 %
	0.0 g/l / 0.00 lb/gal
Solids content:	0.4 %
· Other information	No further relevant information available.

## 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.

## 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

. 1	I D/I	C50	volues	that are	rolovant	for	classification

ATE (Acute Toxicity Estimate)			
		956 mg/kg	
		>987 mg/kg	
Inhalative	LC50/4 h	18.5 mg/L	

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'	75-05-8 ac	etonitrile	
	Oral	LD50	1,320 mg/kg (rat)
	Dermal	LD50	>2,000 mg/kg (rabbit)
	Inhalative	LC50/4 h	3,587 mg/L (mouse)
	98-95-3 ni	trobenzen	e
	Oral	LD50	390 mg/kg (rat)
	Dermal	LD50	2,100 mg/kg (rat)
	Inhalative	LC50/4 h	556 mg/L (rat)
99-35-4 1,3,5-trinitrobenzene		obenzene	
	Oral	LD50	275 mg/kg (rat)
	99-65-0 1,3-dinitrobenzene		
	Oral	LD50	83 mg/kg (rat)
	121-14-2 2	,4-dinitro	toluene
	Oral	LD50	268 mg/kg (rat)

- · Primary irritant effect:
- on the skin: No irritant effect.
- · 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 Harmful Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)				
	nitrobenzene	2B		
118-96-7	2,4,6-trinitrotoluene	3		
121-14-2	2,4-dinitrotoluene	2B		
`	· NTP (National Toxicology Program)			
98-95-3 r	98-95-3 nitrobenzene R			
· OSHA-Ca (Occupational Safety & Health Administration)				
None of the ingredients is listed.				

## 12 Ecological information

- · Toxicity
- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- **Behavior** in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 3 (Self-assessment): extremely hazardous for water

Do not allow product to reach ground water, water course or sewage system, even in small quantities.

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Danger to drinking water if even extremely small quantities leak into the ground.

- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

#### 13 Disposal considerations

- · Waste treatment methods
- · Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.

## 14 Transport information

· Not Regulated, De minimis Quantities	-
· IJN-Number	

- UN1993 · DOT, IMDG, IATA
- · UN proper shipping name
- $\cdot$  DOT Flammable liquids, n.o.s. (Acetonitrile)
- FLAMMABLE LIQUID, N.O.S. (ACETONITRILE) · IMDG, IATA
- · Transport hazard class(es)
- · DOT



- · Class 3 Flammable liquids
- ·Label
- · IMDG, IATA



- ·Class 3 Flammable liquids
- ·Label 3
- · Packing group
- · DOT, IMDG, IATA II

· Environmental hazards: Not applicable.

- Warning: Flammable liquids · Special precautions for user
- · Hazard identification number (Kemler code): 33
- · EMS Number: F-E,S-E

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· Stowage Category	В
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· DOT · Quantity limitations	On passenger aircraft/rail: 5 L On cargo aircraft only: 60 L
· IMDG	
· Limited quantities (LQ)	1L
· Excepted quantities (EQ)	Code: E2
	Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (ACETONITRILE) 3, II

## 15 Regulatory information

None of the ingredients is listed.

98-95-3 nitrobenzene

· Chemicals known to cause reproductive toxicity for males:

· Safety, health and environmental regulations/legislation specific for the substance or mixture · Sara			
· Section 355 (extremely hazardous substances):			
98-95-3 nitrobenzene			
· Section 313 (Specific toxic chemical listings):			
75-05-8 acetonitrile			
98-95-3 nitrobenzene			
99-65-0 1,3-dinitrobenzene			
121-14-2 2,4-dinitrotoluene			
TSCA (Toxic Substances Control Act):			
All components have the value ACTIVE.			
· Hazardous Air Pollutants			
75-05-8 acetonitrile			
98-95-3 nitrobenzene			
121-14-2 2,4-dinitrotoluene			
Proposition 65			
· Chemicals known to cause cancer:			
98-95-3 nitrobenzene			
118-96-7 2,4,6-trinitrotoluene			
121-14-2 2,4-dinitrotoluene			
· Chemicals known to cause reproductive toxicity for females:			

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99-65-0	1,3-dinitrobenzene
121-14-2	2,4-dinitrotoluene

#### · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

#### · Carcinogenic categories

· EPA (Envi	· EPA (Environmental Protection Agency)		
75-05-8	acetonitrile	CBD, D	
98-95-3	nitrobenzene	L	
	1,3-dinitrobenzene	D	
	2,4,6-trinitrotoluene	С	
	perhydro-1,3,5-trinitro-1,3,5-triazine	С	
2691-41-0	cyclotetramethylenetetranitramine	D	

#### · TLV (Threshold Limit Value)

75-05-8	acetonitrile	A4
98-95-3	nitrobenzene	A3
121-82-4	perhydro-1,3,5-trinitro-1,3,5-triazine	A4

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

None of the ingredients is listed.

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

Carcinogenic hazardous material group III (dangerous).

· 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 preparation / last revision 08/23/2024 / 3
- · 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

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PEL: Permissible Exposure Limit REL: Recommended Exposure Limit BEI: Biological Exposure Limit

Flammable Liquids 2: Flammable liquids – Category 2 Acute Toxicity - Oral 4: Acute toxicity - Category 4
Acute Toxicity - Dermal 3: Acute toxicity - Category 3
Eye Irritation 2A: Serious eye damage/eye irritation - Category 2A

Carcinogenicity 2: Carcinogenicity – Category 2

Toxic to Reproduction 1B: Reproductive toxicity - Category 1B

\* Data compared to the previous version altered.