Printing date 05/07/2020 Reviewed on 05/07/2020

1 Identification

- · Product identifier
- · Product Name: 1000 ug/g Barium in Base Oil 75
- · Part Name: ORG-BA8-2Z
- $\cdot \textbf{\textit{Application of the substance / the mixture } \textit{Certified Reference Material} \\$
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

SPEX CertiPrep, LLC.

203 Norcross Ave, Metuchen,

NJ 08840 USA

- · Information department: product safety department
- · Emergency telephone number:

Emergency Phone Number (24 hours)

CHEMTREC (800-424-9300)

Outside US: 703-527-3887

2 Hazard(s) identification

· Classification of the substance or mixture

Eye Irrit. 2B H320 Causes eye irritation.

- · Label elements
- · GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms Not Regulated
- · Signal word Warning
- · Hazard statements

H320 Causes eye irritation.

· Precautionary statements

P264 Wash thoroughly after handling.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313 If eye irritation persists: Get medical advice/attention.

- · Classification system:
- · NFPA ratings (scale 0 4)



Health = 1 Fire = 0Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 1

Fire=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.
- · Dangerous components: Not Regulated

· Chemical identification of the substance/preparation		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	99.9%
7440-39-3	barium	0.1%

4 First-aid measures

- · Description of first aid measures
- · After inhalation: Supply fresh air; consult doctor in case of complaints.
- · After skin contact: Generally the product does not irritate the skin.
- · After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- · After swallowing: Do not give anything to eat or drink Do not induce vomitting

(Contd. on page 2)

Printing date 05/07/2020 Reviewed on 05/07/2020

Product Name: 1000 ug/g Barium in Base Oil 75

(Contd. of page 1)

- · 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.

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: No special measures required.

6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Not required.
- · Environmental precautions: No special measures required.
- · Methods and material for containment and cleaning up:

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

· 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:		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	140 mg/m ²
7440-39-3	barium	1.5 mg/m ³
· PAC-2:		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	1,500 mg/m
7440-39-3	barium	180 mg/m³
· PAC-3:		
64742-65-0	Distillates (petroleum), solvent-dewaxed heavy paraffinic	8,900 mg/m
7440-39-3	barium	1,100 mg/m

7 Handling and storage

- · Handling:
- · Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: No special measures required.
- $\cdot \textit{Conditions for safe storage, including any incompatibilities}$
- · 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

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- $\cdot \textit{Components with limit values that require monitoring at the workplace:} \\$

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

- · 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.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes.

Avoid contact with the eyes and skin.

· Respiratory protection: Not required.

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/07/2020 Reviewed on 05/07/2020

Product Name: 1000 ug/g Barium in Base Oil 75

(Contd. of page 2)

· Protection of hands:

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection:



Tightly sealed goggles

9 Physical and chemical properties

· Information of	on hasia	nhysical	and chen	ical properties
· mjormanon (m vasa	pnysicui	ини спет	iicai properiies

· General Information

· Appearance:

Form:

Liquid

Color: According to product specification

· Odor: Characteristic

· Odour Threshold: Not applicable.

· pH-value: Not applicable.

· Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range: Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

· Decomposition temperature: Not applicable.

· Auto igniting: Product is not selfigniting.

• Danger of explosion: Product does not present an explosion hazard.

· Explosion limits:

Lower: Not applicable. Upper: Not applicable.

· Vapor pressure: Not determined.

· Density Not applicable.

Relative density
 Vapor density
 Not applicable.
 Not applicable.

• Evaporation rate Not applicable.

· Solubility in / Miscibility with

Water: Not miscible or difficult to mix.

· Partition coefficient (n-octanol/water): Not applicable.

· Viscosity:

Dynamic: Not applicable. **Kinematic:** Not applicable.

· Solvent content:

VOC content: 0.00 %

Solids content: 0.1 %

· 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.

(Contd. on page 4)

Printing date 05/07/2020 Reviewed on 05/07/2020

Product Name: 1000 ug/g Barium in Base Oil 75

(Contd. of page 3)

- · 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:
- · Primary 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:

Irritant

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

· NTP (National Toxicology Program)

None of the ingredients is listed.

· 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: Not hazardous for water.
- · 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.

	port in	

٠	$UN-\Lambda$	lumber

- · DOT, ADR, IMDG, IATA Not Regulated
- · UN proper shipping name
- · DOT, ADR, IMDG, IATA Not Regulated
- · Transport hazard class(es)
- · DOT, ADR, ADN, IMDG, IATA
- · Class Not Regulated
- · Packing group
- · DOT, ADR, IMDG, IATA Not Regulated

· Environmental hazards: Not applicable.

(Contd. on page 5)

Printing date 05/07/2020 Reviewed on 05/07/2020

Product Name: 1000 ug/g Barium in Base Oil 75

(Contd. of page 4)

· Special precautions for user Not applicable.

· Transport in bulk according to Annex II of MARPOL73/78 and the IBC

Not applicable.

· UN "Model Regulation": Not Regulated

15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · Section 313 (Specific toxic chemical listings):

7440-39-3 barium

· TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

· Hazardous Air Pollutants

None of the ingredients is listed.

- Proposition 65
- · Chemicals known to cause cancer:

None of the ingredients is listed.

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)

7440-39-3 barium D, CBD(inh), NL(oral)

· TLV (Threshold Limit Value established by ACGIH)

7440-39-3 barium A4

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

None of the ingredients is listed.

- GHS label elements The product is classified and labeled according to the Globally Harmonized System (GHS).
- · Hazard pictograms Not Regulated
- · Signal word Warning
- · Hazard statements
- H320 Causes eye irritation.
- · Precautionary statements

Wash thoroughly after handling.

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

If eye irritation persists: Get medical advice/attention.

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

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship

- · Department issuing SDS: product safety department
- · Contact:

SPEX CertiPrep, LLC.

1-732-549-7144

- · Date of preparation / last revision 05/07/2020 / -
- · Abbreviations and acronyms:

ADR: Accord européen sur le transport 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

ACGIH: American Conference of Governmental Industrial Hygienists 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)

Safety Data Sheet acc. to OSHA HCS

Printing date 05/07/2020 Reviewed on 05/07/2020

Product Name: 1000 ug/g Barium in Base Oil 75

VOC: Volatile Organic Compounds (USA, EU)
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
REL: Recommended Exposure Limit
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

(Contd. of page 5)