

acc. to OSHA HCS

Printing date 07/28/2021

Review date 07/28/2021

1 Identification

- **Product identifier**
- **Trade name:** All in One Purification System
- **Article number** N9306110
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**

PerkinElmer, Inc.
710 Bridgeport Avenue
Shelton, Connecticut 06484 USA
CustomerCareUS@perkinelmer.com
203-925-4600

- **Emergency telephone number:**
CHEMTREC (within US) 800-424-9300
CHEMTREC (from outside US) +1 703-527-3887 (call collect)
CHEMTREC (within AU) +(61)-290372994

2 Hazard(s) identification

- **Classification of the substance or mixture**



Health hazard

Carc. 1A H350 May cause cancer.



Environment

Aquatic Acute 1 H400 Very toxic to aquatic life.

Aquatic Chronic 1 H410 Very toxic to aquatic life with long lasting effects.



Eye Irrit. 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, GHS08, GHS09
- **Signal word** Danger

- **Hazard-determining components of labeling:**
Quartz (SiO₂)
- **Hazard statements**
H319 Causes serious eye irritation.
H350 May cause cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

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· Precautionary statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P264 Wash thoroughly after handling.
- P273 Avoid release to the environment.
- P280 Wear protective gloves / eye protection / face protection.
- P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 IF exposed or concerned: Get medical advice/attention.
- P337+P313 If eye irritation persists: Get medical advice/attention.
- P391 Collect spillage.
- P407 Maintain air gap between stacks/pallets.
- P420 Store away from other materials.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Classification system:

· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



· Other hazards

The product does not contain any organic halogen compounds (AOX), nitrates, heavy metal compounds or formaldehydes.

· 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.

· Hazardous components:

1317-38-0	copper(II) oxide Aquatic Acute 1, H400; Aquatic Chronic 1, H410	38.0%
1314-13-2	zinc oxide - (non-pyrophoric) Aquatic Acute 1, H400; Aquatic Chronic 1, H410	15.0%
1344-28-1	aluminium oxide	13.0%
7440-44-0	carbon Flam. Sol. 1, H228	5.0%

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1305-78-8	calcium oxide ☠ Eye Dam. 1, H318	2.0%
14808-60-7	Quartz (SiO ₂) ☠ Carc. 1A, H350	1.0%
Additional Components		
7631-86-9	silicon dioxide, chemically prepared	18.0%
1302-78-9	BENTONITE	5.0%
1313-59-3	SODIUM OXIDE	3.0%

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:** 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:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 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:		
1317-38-0	copper(II) oxide	0.75 mg/m ³
7631-86-9	silicon dioxide, chemically prepared	18 mg/m ³

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1314-13-2	zinc oxide - (non-pyrophoric)	10 mg/m ³
1344-28-1	aluminium oxide	15 mg/m ³
7440-44-0	carbon	6 mg/m ³
1313-59-3	SODIUM OXIDE	0.5 mg/m ³
1305-78-8	calcium oxide	6 mg/m ³
14808-60-7	Quartz (SiO ₂)	0.075 mg/m ³
· PAC-2:		
1317-38-0	copper(II) oxide	11 mg/m ³
7631-86-9	silicon dioxide, chemically prepared	740 mg/m ³
1314-13-2	zinc oxide - (non-pyrophoric)	15 mg/m ³
1344-28-1	aluminium oxide	170 mg/m ³
7440-44-0	carbon	330 mg/m ³
1313-59-3	SODIUM OXIDE	5 mg/m ³
1305-78-8	calcium oxide	110 mg/m ³
14808-60-7	Quartz (SiO ₂)	33 mg/m ³
· PAC-3:		
1317-38-0	copper(II) oxide	93 mg/m ³
7631-86-9	silicon dioxide, chemically prepared	4,500 mg/m ³
1314-13-2	zinc oxide - (non-pyrophoric)	2,500 mg/m ³
1344-28-1	aluminium oxide	990 mg/m ³
7440-44-0	carbon	2,000 mg/m ³
1313-59-3	SODIUM OXIDE	50 mg/m ³
1305-78-8	calcium oxide	660 mg/m ³
14808-60-7	Quartz (SiO ₂)	200 mg/m ³

7 Handling and storage

- **Handling:**
- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
- **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.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 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.

1314-13-2 zinc oxide - (non-pyrophoric)

PEL	Long-term value: 15* 5** mg/m ³ *total dust **respirable fraction and fume
REL	Short-term value: 10** mg/m ³ Long-term value: 5 mg/m ³ Ceiling limit value: 15* mg/m ³ *dust only **fume
TLV	Short-term value: 10* mg/m ³ Long-term value: 2* mg/m ³ *as respirable fraction

1344-28-1 aluminium oxide

PEL	Long-term value: 15*, 5** mg/m ³ *Total dust; ** Respirable fraction
REL	Long-term value: 10* 5** mg/m ³ as Al*Total dust**Respirable/pyro powd./welding f.
TLV	Long-term value: 1* mg/m ³ as Al; *as respirable fraction

1305-78-8 calcium oxide

PEL	Long-term value: 5 mg/m ³
REL	Long-term value: 2 mg/m ³
TLV	Long-term value: 2 mg/m ³

14808-60-7 Quartz (SiO₂)

PEL	Long-term value: 0.05* mg/m ³ *resp. dust; 30mg/m ³ /%SiO ₂ +2
REL	Long-term value: 0.05* mg/m ³ *respirable dust; See Pocket Guide App. A
TLV	Long-term value: 0.025* mg/m ³ *as respirable fraction

· **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.

Store protective clothing separately.

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Avoid contact with the eyes.
Avoid contact with the eyes and skin.

· **Breathing equipment:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· **Protection of hands:**



Protective gloves

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

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Solid
Color:	According to product specification
Odor:	Characteristic
Odor threshold:	Not determined.

· **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 determined.

· **Ignition temperature:** >370 °C (>698 °F)

· **Decomposition temperature:** Not determined.

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· Auto igniting:	<i>Product is not selfigniting.</i>
· Danger of explosion:	<i>Product does not present an explosion hazard. Not determined.</i>
· Explosion limits: Lower: Upper:	<i>Not determined. Not determined.</i>
· Vapor pressure:	<i>Not applicable.</i>
· Density: · Relative density · Vapor density · Evaporation rate	<i>Not determined. Not determined. Not applicable. Not applicable.</i>
· Solubility in / Miscibility with Water:	<i>Not miscible or difficult to mix.</i>
· Partition coefficient (n-octanol/water):	<i>Not determined.</i>
· Viscosity: Dynamic: Kinematic:	<i>Not applicable. Not applicable.</i>
· Solvent content: VOC content:	<i>0.00 %</i>
Solids content:	<i>85.0 %</i>
· Other information	<i>No further relevant information available.</i>

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:**
- **LD/LC50 values that are relevant for classification:**
- 1314-13-2 zinc oxide - (non-pyrophoric)**
- Oral LD50 >5000 mg/kg (rat)
- **Primary irritant effect:**
- **on the skin:** *No irritant effect.*

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- **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)**

7631-86-9	silicon dioxide, chemically prepared	3
14808-60-7	Quartz (SiO ₂)	1

- **NTP (National Toxicology Program)**

14808-60-7	Quartz (SiO ₂)	K
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- **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.
- **Ecotoxic effects:**
- **Remark:** Very toxic for fish
- **Additional ecological information:**
- **General notes:**
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Very toxic for aquatic organisms
- **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:**
Dispose of container and materials in accordance with local, regional and national regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

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14 Transport information

· UN-Number · DOT, ADR, IMDG, IATA	UN3077
· UN proper shipping name · DOT · ADR · IMDG · IATA	Environmentally hazardous substance, solid, n.o.s. (Activated copper oxide, zinc oxide - (non-pyrophoric)) 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Activated copper oxide, zinc oxide - (non-pyrophoric)) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Activated copper oxide, zinc oxide - (non-pyrophoric)), MARINE POLLUTANT ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Activated copper oxide, zinc oxide - (non-pyrophoric))
· Transport hazard class(es) · DOT, IMDG, IATA	
	
· Class · Label	9 Miscellaneous dangerous substances and articles 9
· ADR	
	
· Class · Label	9 (M7) Miscellaneous dangerous substances and articles 9
· Packing group · DOT, ADR, IMDG, IATA	III
· Environmental hazards: · Marine pollutant:	Yes Symbol (fish and tree)
· Special marking (ADR): · Special marking (IATA):	Symbol (fish and tree) Symbol (fish and tree)
· Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category · Stowage Code	Warning: Miscellaneous dangerous substances and articles 90 F-A,S-F A SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.

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· 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: No limit On cargo aircraft only: No limit
· Remarks:	Special marking with the symbol (fish and tree).
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· IMDG	
· Limited quantities (LQ)	5 kg
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ACTIVATED COPPER OXIDE, ZINC OXIDE - (NON-PYROPHORIC)), 9, III

15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

1317-38-0	copper(II) oxide ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	38.0%
7631-86-9	silicon dioxide, chemically prepared	18.0%
1314-13-2	zinc oxide - (non-pyrophoric) ⚠ Aquatic Acute 1, H400; Aquatic Chronic 1, H410	15.0%

· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

· **Section 313 (Specific toxic chemical listings):**

1317-38-0	copper(II) oxide
1314-13-2	zinc oxide - (non-pyrophoric)
1344-28-1	aluminium oxide

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

1317-38-0	copper(II) oxide	ACTIVE
7631-86-9	silicon dioxide, chemically prepared	ACTIVE
1314-13-2	zinc oxide - (non-pyrophoric)	ACTIVE
1344-28-1	aluminium oxide	ACTIVE

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1302-78-9	BENTONITE	ACTIVE
7440-44-0	carbon	ACTIVE
1313-59-3	SODIUM OXIDE	ACTIVE
1305-78-8	calcium oxide	ACTIVE
14808-60-7	Quartz (SiO ₂)	ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

· Proposition 65

· Chemicals known to cause cancer:

14808-60-7 Quartz (SiO₂)

· 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.

· Cancerogenity categories

· EPA (Environmental Protection Agency)

1314-13-2 zinc oxide - (non-pyrophoric) D, I, II

· TLV (Threshold Limit Value established by ACGIH)

1344-28-1 aluminium oxide A4

14808-60-7 Quartz (SiO₂) A2

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

14808-60-7 Quartz (SiO₂)

· 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 this hazardous material. Exceptions can be made by the authorities in certain cases.

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.

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

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

16 Other information

Disclaimer

The information provided in this Material Safety Data Sheet is based on our present knowledge, and believed to be correct at the date of publication. However, no representation is made concerning its accuracy and completeness. It is intended as guidance only, and is not to be considered a warranty or quality specification. All materials may present unknown hazards, and should be used with caution. Although certain hazards are described, we cannot guarantee that

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these are the only hazards which exist. PerkinElmer shall not be held liable for any damage resulting from handling or from contact with the product.

· **Department issuing SDS:** Environmental, Health and Safety

· **Contact:**

Within the USA: 1-(800)-762-4000

Outside the USA: 1-(203)-712-8488

· **Abbreviations and acronyms:**

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

ICAO: International Civil Aviation Organisation

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)

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

REL: Recommended Exposure Limit

Flam. Sol. 1: Flammable solids – Category 1

Eye Dam. 1: Serious eye damage/eye irritation – Category 1

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

Carc. 1A: Carcinogenicity – Category 1A

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

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