

Safety Data Sheet

according to 29 CFR 1910.1200(g)

UV-Plus Purifier

Revision date: 06.02.2017

Product code: 75160018, 75160211

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1. Identification

Product identifier

UV-Plus Purifier

Recommended use of the chemical and restrictions on use

Use of the substance/mixture

professional use.

The UV Plus Purifier is a gas cleaning system for exclusive use in OES SPECTRO products.

Uses advised against

any non-intended use.

Details of the supplier of the safety data sheet

Company name: SPECTRO Analytical Instruments GmbH
Street: Boschstr. 10
Place: D-47533 Kleve
Responsible Department: info@tge-consult.de

Emergency phone number: International: +44 1865407333 Spectro 29003-NCEC

Further Information

The product is classified as a device. Providing the Safety Data Sheet takes place on a voluntary basis for information purposes.

2. Hazard(s) identification

Classification of the chemical

29 CFR Part 1910.1200

Hazard categories:

Self-heating chemicals: Self-heat. 1

Hazard Statements:

Self-heating; may catch fire

UN GHS Classification (voluntary):

Hazardous to the aquatic environment: Aquatic Acute 1

Hazardous to the aquatic environment: Aquatic Chronic 1

Label elements

29 CFR Part 1910.1200

Precautionary statements

Avoid release to the environment.

Additional advice on labelling

Not required because hazardous substances are incorporated in the material/article and there is no risk in case of skin contact, inhalation or ingestion as long as the material is properly handled and stored. (1910.1200(b)(6)(v))

Hazards not otherwise classified

This article doesn't contain dangerous substances or preparations intended to be released under normal or reasonably foreseeable conditions of use. Under normal conditions, the product is hermetically sealed.

3. Composition/information on ingredients

Mixtures

Chemical characterization

Catalyst.

The UV Plus Purifier is a gas cleaning system for exclusive use in OES SPECTRO products. Dispose of only deactivated catalyst residues.

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Hazardous components

CAS No	Components	Quantity
-	activated Copper Oxide	< 50 %
1317-38-0	Copper oxide	< 50 %
1314-13-2	zinc oxide	< 1 %

4. First-aid measures**Description of first aid measures****General information**

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

After inhalation

In case of accident by inhalation: remove casualty to fresh air and keep at rest. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with skin

In the event of a damaged container. If material escapes:

After contact with skin, wash immediately with: Water. In all cases of doubt, or when symptoms persist, seek medical advice.

After contact with eyes

In the event of a damaged container. If material escapes:

Rinse immediately carefully and thoroughly with eye-bath or water. In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

In the event of a damaged container. If material escapes:

Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). In all cases of doubt, or when symptoms persist, seek medical advice.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. Fire-fighting measures**Extinguishing media****Suitable extinguishing media**

The product itself does not burn.

In the event of a damaged container. If material escapes:

D powder. Dry sand.

Unsuitable extinguishing media

Water.

Specific hazards arising from the chemical

Can be released in case of fire: Gas/vapours, harmful.

Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Co-ordinate fire-fighting measures to the fire surroundings.

Use water spray jet to protect personnel and to cool endangered containers.

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6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment.
Warning: May cause fire.
In case of fire, use fire extinguisher class D.

Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

Methods and material for containment and cleaning up

Dispose of only deactivated catalyst residues.
Take up carefully when dry. Avoid contact with water.
Treat the recovered material as prescribed in the section on waste disposal.
Clean contaminated articles and floor according to the environmental legislation.

Reference to other sections

See protective measures under point 7 and 8.

7. Handling and storage

Precautions for safe handling

Advice on safe handling

Protect containers against damage.
Under normal conditions, the product is hermetically sealed.

Advice on protection against fire and explosion

Protect containers against damage.
Under normal conditions, the product is hermetically sealed.
Usual measures for fire prevention.

Further information on handling

Advices on general occupational hygiene: refer to chapter 8

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

not relevant

Advice on storage compatibility

not relevant

Further information on storage conditions

not relevant

8. Exposure controls/personal protection

Control parameters

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Exposure limits

CAS No.	Substance	ppm	mg/m ³	f/cc	Category	Origin
7440-50-8	Copper (dusts and mists, as Cu)	-	1		TWA (8 h)	REL
7440-50-8	Copper Dusts and mists (as Cu)	-	1		TWA (8 h)	REL
1317-38-0	Copper fume: copper(II) oxide, as Cu		0.2		TWA (8 h)	ACGIH-2016
14808-60-7	Silica, crystalline (as respirable dust)	-	0.05		TWA (8 h)	REL
14808-60-7	Silica, crystalline - alpha-quartz (respirable fraction)		0.025		TWA (8 h)	ACGIH-2016
14808-60-7	Silica, crystalline quartz, total dust	-	(Z-3)		TWA (8 h)	REL
1314-13-2	Zinc oxide (Dust)	-	5		TWA (8 h)	REL
1314-13-2	Zinc oxide (respirable fraction)		2		TWA (8 h)	ACGIH-2016
			10		STEL (15 min)	ACGIH-2016
1314-13-2	Zinc oxide Respirable fraction	-	5		TWA (8 h)	REL

Additional advice on limit values

Under normal conditions, the product is hermetically sealed.

Exposure controls**Appropriate engineering controls**

No special measures are necessary.

Protective and hygiene measures

No special measures are necessary.

Eye/face protection

Eye protection: not required.

Under normal conditions, the product is hermetically sealed.

Hand protection

Hand protection: not required.

Under normal conditions, the product is hermetically sealed.

Respiratory protection

With correct and proper use, and under normal conditions, breathing protection is not required.

Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

Environmental exposure controls

No special precautionary measures are necessary.

9. Physical and chemical properties**Information on basic physical and chemical properties**

Physical state: solid
 Color: not applicable
 Odor: not applicable

Test method

pH-Value: not applicable

Changes in the physical state

Initial boiling point and boiling range: not applicable not applicable

Flash point: not applicable

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Explosive properties

not applicable

Lower explosion limits:

not applicable

Upper explosion limits:

not applicable

Ignition temperature:

not applicable

Oxidizing properties

In the event of a damaged container. If material escapes: Self-heating substances and mixtures May cause fire.

Vapor pressure:

not applicable

Water solubility:

not applicable

Viscosity / dynamic:

not applicable

Solvent content:

0%

Other information

Solid content:

not applicable

10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stability:

Stable

The product is stable under storage at normal ambient temperatures.

Possibility of hazardous reactions

Hazardous reactions:

May occur

No information available.

Conditions to avoid

Protect against: UV-radiation/sunlight. heat.

Incompatible materials

Substances and mixtures which, in contact with water, emit flammable gases. Combustible substance. Oxidizing agents. Emission of air/oxygen.

Hazardous decomposition products

Can be released in case of fire: Gas/vapours, harmful.

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

Under normal conditions, the product is hermetically sealed.

In the event of a damaged container. If material escapes: Ingestion: May be harmful. Inhalation: May be harmful.

Skin contact: May cause mild irritation. Eye contact: May cause irritation. May cause fire.

Toxicokinetics, metabolism and distribution

No data available.

Acute toxicity

Based on available data, the classification criteria are not met.

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CAS No	Components			
	Exposure route	Dose	Species	Source
1317-38-0	Copper oxide			
	oral	LD50 >2500 mg/kg	Rat	ECHA dossier
	dermal	LD50 >2000 mg/kg	Rat	ECHA dossier
1314-13-2	zinc oxide			
	oral	LD50 >5000 mg/kg	Rat	ECHA Dossier
	dermal	LD50 >2000 mg/kg	Rat	ECHA Dossier
	inhalative (4 h) aerosol	LC50 >5,7 mg/l	Rat	ECHA Dossier

Irritation and corrosivity

Based on available data, the classification criteria are not met.

Sensitizing effects

Based on available data, the classification criteria are not met.

Copper oxide: no danger of sensitization. literature information: ECHA Dossier

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

Copper oxide: Ames test negative. literature information: ECHA Dossier

Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met.

No information available.

Carcinogenicity (NTP):

not listed

Carcinogenicity (IARC):

Silica dust, crystalline, in the form of quartz or cristobalite (CAS 14808-60-7) is listed in group 1.

Carcinogenicity (OSHA):

not listed

Aspiration hazard

Based on available data, the classification criteria are not met.

Specific effects in experiment on an animal

No data available.

12. Ecological information**Ecotoxicity**

No data available.

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

No indication of bioaccumulation potential.

Mobility in soil

No data available.

Other adverse effects

No data available.

Further information

Do not allow to enter into surface water or drains.

13. Disposal considerations

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Waste treatment methods**Advice on disposal**

Must not be disposed with household waste.
Refer to manufacturer/supplier for information on recovery/recycling.

Contaminated packaging

not relevant

14. Transport information**US DOT 49 CFR 172.101**

UN/ID number: UN 3190
Proper shipping name: SELF-HEATING SOLID, INORGANIC, N.O.S. (Activated copper oxide)
Transport hazard class(es): 4.2
Packing group: II
 Hazard label: 4.2

Marine transport (IMDG)

UN number: UN 3190
UN proper shipping name: SELF-HEATING SOLID, INORGANIC, N.O.S. (Activated copper oxide)
Transport hazard class(es): 4.2
Packing group: II
 Hazard label: 4.2



Marine pollutant: No
 Limited quantity: 0
 Excepted quantity: E2
 EmS: F-A, S-J

Air transport (ICAO-TI/IATA-DGR)

UN number: UN 3190
UN proper shipping name: SELF-HEATING SOLID, INORGANIC, N.O.S. (Activated copper oxide)
Transport hazard class(es): 4.2
Packing group: II
 Hazard label: 4.2



Limited quantity Passenger: Forbidden
 Passenger LQ: Forbidden
 Excepted quantity: E2
 IATA-packing instructions - Passenger: 467
 IATA-max. quantity - Passenger: 15 kg
 IATA-packing instructions - Cargo: 470
 IATA-max. quantity - Cargo: 50 kg

Environmental hazards

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ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: Copper oxide

Special precautions for user

refer to chapter 6-8

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not relevant

15. Regulatory information**U.S. Regulations****National Inventory TSCA**

All ingredients used to manufacture this product are listed in the TSCA Inventory and not listed under TSCA 12(b)

National regulatory information

SARA Section 304 CERCLA:

Zinc compounds (-): Reportable quantity = &

SARA Section 313 Toxic release inventory:

Zinc compounds (-): De minimis limit = 1.0 %, Reportable threshold = Standard

State Regulations**Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**

This product contains no chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

16. Other information**Hazardous Materials Information Label (HMIS)**

Health: 0

Flammability: 2

Physical Hazard: 2

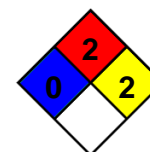
NFPA Hazard Ratings

Health: 0

Flammability: 2

Reactivity: 2

Unique Hazard:

**Changes**

Revision date: 05.12.2016

Revision No: 1,1

Rev. 1,0 Initial release 23.04.2014

Rev. 1,1 Changes in chapter: 2, 7, 9, 10, 14, 15,16

Abbreviations and acronyms

ADR: Accord européen sur le transport des marchandises dangereuses par Route

CAS Chemical Abstracts Service

DNEL: Derived No Effect Level

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

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ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)
LOAEL: Lowest observed adverse effect level
LOAEC: Lowest observed adverse effect concentration
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
NOAEL: No observed adverse effect level
NOAEC: No observed adverse effect level
NTP: National Toxicology Program
N/A: not applicable
OSHA: Concerning the International Transport of Dangerous Goods by Rail)
PNEC: predicted no effect concentration
PBT: Persistent bioaccumulative toxic
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
SARA: Superfund Amendments and Reauthorization Act
SVHC: substance of very high concern
TRGS Technische Regeln für Gefahrstoffe
TSCA: Toxic Substances Control Act
VOC: Volatile Organic Compounds
VwVwS: Verwaltungsvorschrift wassergefährdender Stoffe
WGK: Wassergefährdungsklasse

Other data

Classification according to regulation 29 CFR Part 1910.1200 (GHS): - Classification procedure:
Health hazards: Calculation method.
Environmental hazards: Calculation method.
Physical hazards: On basis of test data. and / or calculated. and / or estimated.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)