

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024



Reviewed on 02/22/2024

1 Identification

- **Product identifier**
- **Trade name:** **BRAWO UVPox US**
- **Application of the substance / the mixture** *Epoxy sealing*
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:** *KUZE
Kunststoff und Zement
Systemtechnik GmbH
Maxstraße 10
45127 Essen, Germany
Tel.: +49 176 10 625 103
E-Mail: info@kuze-sys.de*
- **Information department:** *info@kuze-sys.de*
- **Emergency telephone number:** *Tel.: +49 / (0)700 24112112 (MCR)
Tel.: +1 872 5888271 (MCR)*

2 Hazard(s) identification

- **Classification of the substance or mixture**
*Skin Irritation 2 H315 Causes skin irritation.
 Eye Damage 1 H318 Causes serious eye damage.
 Sensitization - Skin 1 H317 May cause an allergic skin reaction.*
- **Label elements**
- **GHS label elements** *The product is classified and labeled according to the Globally Harmonized System (GHS).*
- **Hazard pictograms**

GHS05 GHS07
- **Signal word** *Danger*
- **Hazard-determining components of labeling:** *4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid
Oxybis(methyl-2,1-ethanediyl) diacrylate
1,6-Hexanediol diacrylate
phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide*
- **Hazard statements** *Causes skin irritation.
Causes serious eye damage.
May cause an allergic skin reaction.*
- **Precautionary statements** *Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves / eye protection / face protection.*

(Contd. on page 2)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 1)

*If on skin: Wash with plenty of water.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.*

- **Classification system**
- **NFPA ratings (scale 0-4)** Health = 3
 Fire = 1
 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 consisting of the following components.

· **Dangerous components:**

CAS: 55818-57-0	4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid	60-80%
CAS: 57472-68-1	Oxybis(methyl-2,1-ethanediyl) diacrylate	10-30%
CAS: 13048-33-4	1,6-Hexanediol diacrylate	≥1-<10%
CAS: 162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	≥0.1-<0.5%

- **Additional information** For the wording of the listed hazard phrases refer to section 16.

4 First-aid measures

- **Description of first aid measures**
- **After inhalation** In case of unconsciousness place patient stably in side position for transportation.
- **After skin contact** Generally the product does not irritate the skin.
- **After eye contact** Seek medical treatment.
- **After swallowing** Rinse out mouth and then drink plenty of water.
 Seek medical treatment.

5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents** Use fire fighting measures that suit the environment.

(Contd. on page 3)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 2)

- **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:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
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:

CAS: 13048-33-4	1,6-Hexanediol diacrylate	3 mg/m ³
CAS: 108-83-8	2,6-Dimethyl-heptan-4-on	75 ppm

· PAC-2:

CAS: 13048-33-4	1,6-Hexanediol diacrylate	170 mg/m ³
CAS: 108-83-8	2,6-Dimethyl-heptan-4-on	330 ppm

· PAC-3:

CAS: 13048-33-4	1,6-Hexanediol diacrylate	990 mg/m ³
CAS: 108-83-8	2,6-Dimethyl-heptan-4-on	2000* ppm

7 Handling and storage

- **Handling**
- **Precautions for safe handling** Open and handle receptacle with care.
Prevent formation of aerosols.
Ensure good ventilation/exhaustion at the workplace.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Keep tightly closed in original packaging. Keep storage rooms well ventilated. Carefully close opened containers and store upright to prevent any leakage.

Storage temperature >5°C and <30°C

(Contd. on page 4)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 3)

- **Information about storage in one common storage facility:** *Do not store together with radical formers, oxidizing agents, reducing agents, acids, bases. Do not store together with foodstuffs.*
- **Further information about storage conditions:** *None.*
- **Storage class** *10*

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 constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.*

CAS: 13048-33-4 1,6-Hexanediol diacrylate

WEEL	Long-term value: 1 mg/m ³
	DSEN

- **Additional information:** *The lists that were valid during the creation were used as basis.*
- **Exposure controls** *For further information on specific risk management measures, see the annex to this safety data sheet (exposure scenarios).*
- **Personal protective equipment**
- **General protective and hygienic measures** *Do not smoke, eat or drink while working. Have eye wash equipment ready.
Do not inhale gases/vapors/aerosols. Avoid contact with eyes and skin.
Do not store food in the work area. Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.*
- **Breathing equipment:** *Respiratory protection in case of high concentrations. Full-face mask, filter !; respiratory protection in case of aerosol or mist formation.
Self-contained breathing apparatus.
In case of brief exposure or low pollution or when application is performed at confined area with adequate mechanical ventilation meeting local authority requirements, use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.*
- **Protection of hands:** *Chemical resistant gloves
Suitable material: nitrile
Material thickness 0.4 mm
Penetration time > 480 min
Protective gloves.*

(Contd. on page 5)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

- | | |
|---|---|
| <ul style="list-style-type: none"> · Material of gloves · Penetration time of glove material · Eye protection: · Body protection: | <p style="text-align: right;">(Contd. of page 4)</p> <p>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.</p> <p>The exact breakthrough time must be obtained from the protective glove manufacturer and must be observed.</p> <p>Tightly sealed goggles.
Impervious protective clothing</p> |
|---|---|

9 Physical and chemical properties

- | | |
|--|---|
| <ul style="list-style-type: none"> · Information on basic physical and chemical properties · General Information · Appearance: | |
| <ul style="list-style-type: none"> · Form: · Color: · Odor: · Odor threshold: | <p>Fluid</p> <p>Whitish</p> <p>Characteristic</p> <p>Not determined.</p> |
| <ul style="list-style-type: none"> · pH-value: | <p>Mixture reacts violently with water.</p> <p>Not determined.</p> |
| <ul style="list-style-type: none"> · Change in condition | |
| <ul style="list-style-type: none"> · Melting point/Melting range: · Boiling point/Boiling range: | <p>undetermined</p> <p>undetermined</p> |
| <ul style="list-style-type: none"> · Flash point: | <p>137 °C (278.6 °F)</p> |
| <ul style="list-style-type: none"> · Flammability (solid, gaseous) | <p>Not applicable.</p> |
| <ul style="list-style-type: none"> · Decomposition temperature: | <p>Not determined.</p> |
| <ul style="list-style-type: none"> · Ignition temperature: | <p>Product is not selfigniting.</p> |
| <ul style="list-style-type: none"> · Danger of explosion: | <p>Product does not present an explosion hazard.</p> |
| <ul style="list-style-type: none"> · Explosion limits: | |
| <ul style="list-style-type: none"> · Lower: · Upper: | <p>Not determined.</p> <p>Not determined.</p> |
| <ul style="list-style-type: none"> · Vapor pressure: | <p>Not determined.</p> |
| <ul style="list-style-type: none"> · Density at 20 °C (68 °F): · Relative density · Vapor density · Evaporation rate | |
| <ul style="list-style-type: none"> · Density at 20 °C (68 °F): · Relative density · Vapor density · Evaporation rate | <p>1.15 g/cm³ (9.6 lbs/gal)</p> <p>Not determined.</p> <p>Not determined.</p> <p>Not determined.</p> |
| <ul style="list-style-type: none"> · Solubility in / Miscibility with | |
| <ul style="list-style-type: none"> · Water: | <p>Fully miscible</p> |
| <ul style="list-style-type: none"> · Partition coefficient (n-octanol/water): Not determined. | |

(Contd. on page 6)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 5)

- **Viscosity:**
- **dynamic:** *Not determined.*
- **kinematic:** *Not determined.*

· **Other information**

No further relevant information available.

10 Stability and reactivity

- **Reactivity** *No further relevant information available.*
- **Chemical stability** *stable*
- **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:**

CAS: 13048-33-4 1,6-Hexanediol diacrylate

Oral LD50 >5,000 mg/kg (rat)

Dermal LD50 3,600 mg/kg (rabbit)

- **Primary irritant effect:**
- **on the eye:** *No irritating effect, known to us.*
- **Sensitization:** *Sensitization possible through skin contact.*
- **Additional toxicological information:** *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.

(Contd. on page 7)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 6)

- **OSHA-Ca (Occupational Safety & Health Administration)**
- None of the ingredients is listed.

12 Ecological information

- **Toxicity**

- **Aquatic toxicity:**

CAS: 13048-33-4 1,6-Hexanediol diacrylate

EC50/72h 10 mg/l (algae)

LC50/96h 9 mg/l (Oncorhynchus mykiss)

- **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:** Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even 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.

- **Recommended cleansing agent:**

Water, if necessary with cleansing agents.

14 Transport information

- **UN-Number**

- **DOT**

- **ADR, IMDG, IATA**

Void

UN3082

- **UN proper shipping name**

- **DOT**

- **ADR, IATA**

Void

ENVIRONMENTALLY HAZARDOUS
SUBSTANCE, LIQUID, N.O.S. (4,4'-
isopropylidenediphenol, oligomeric reaction)

(Contd. on page 8)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 7)

<ul style="list-style-type: none"> · IMDG 	<p>products with 1-chloro-2,3-epoxypropane, esters with acrylic acid, 1,6-Hexanediol diacrylate) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-isopropylidenediphenol, oligomeric reaction products with 1-chloro-2,3-epoxypropane, esters with acrylic acid, 1,6-Hexanediol diacrylate), MARINE POLLUTANT</p>
<ul style="list-style-type: none"> · Transport hazard class(es) · DOT · Class 	<p>Void</p>
<ul style="list-style-type: none"> · ADR · Class · Label 	<p>9 (M6) Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · IMDG, IATA · Class · Label 	<p>9 Miscellaneous dangerous substances and articles 9</p>
<ul style="list-style-type: none"> · Packing group · DOT · ADR, IMDG, IATA 	<p>Void III</p>
<ul style="list-style-type: none"> · Environmental hazards: · Marine pollutant: · Special marking (ADR): · Special marking (IATA): 	<p>Yes Symbol (fish and tree) Symbol (fish and tree) Symbol (fish and tree)</p>
<ul style="list-style-type: none"> · Special precautions for user · Hazard identification number (Kemler code): · EMS Number: · Stowage Category 	<p>Warning: Miscellaneous dangerous substances and articles 90 F-A, S-F A</p>
<ul style="list-style-type: none"> · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code 	<p>Not applicable.</p>
<ul style="list-style-type: none"> · Transport/Additional information: · ADR · Excepted quantities (EQ) 	<p>Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p>
<ul style="list-style-type: none"> · IMDG · Limited quantities (LQ) · Excepted quantities (EQ) 	<p>5L Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000</p>

(Contd. on page 9)

Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 8)

<ul style="list-style-type: none"> · UN "Model Regulation": 	<p style="text-align: right; margin-bottom: 0;">ml</p> <p>UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (4,4'-ISOPROPYLIDENEDIPHENOL, OLIGOMERIC REACTION PRODUCTS WITH 1-CHLORO-2,3-EPOXYPROPANE, ESTERS WITH ACRYLIC ACID, 1,6-HEXANEDIOL DIACRYLATE), 9, III</p>
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15 Regulatory information

- **Safety, health and environmental regulations/ legislation specific for the substance or mixture** *No further relevant information available.*

- **SARA Section 355 (extremely hazardous substances)**

None of the ingredients is listed.

- **SARA Section 313 (specific toxic chemical listings)**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act)**

All components have the value ACTIVE.

- **Hazardous Air Pollutants**

None of the ingredients is listed.

- **Prop 65 - Chemicals known to cause cancer**

None of the ingredients is listed.

- **Carcinogeny categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value)**

None of the ingredients is listed.

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

None of the ingredients is listed.

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

16 Other information

- **Contact:**

- **Date of preparation / last revision**

02/22/2024

- **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)

(Contd. on page 10)



Safety Data Sheet acc. to OSHA HCS

Printing date 02/22/2024

Reviewed on 02/22/2024

Trade name: BRAWO UVPox US

(Contd. of page 9)

ICAO: International Civil Aviation Organisation
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)
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
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Sensitization - Skin 1: Skin sensitisation – Category 1

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