

Safety Data Sheet

acc. to OSHA HCS

Printing date 11/22/2023

Reviewed on 11/22/2023

1 Identification

Product identifier

Trade name: **Resinwork Dentist AQUA 1**

Application of the substance / the mixture: Acrylic resin

Details of the supplier of the safety data sheet

Manufacturer/Supplier: Graichen Produktions- und Vertriebs GmbH
Darmstädter Str.127
D-64625 Bensheim
Tel.: +49(0)6251 / 7707880
Fax: +49(0)6251 / 77901
e-Mail: ehs@graichen-bensheim.de
http://www.graichen.net

Information department: Product Safety Department

Emergency medical information for poisoning: Poison Information Center Mainz - 24h -

Emergency telephone number: Tel.: +49 (0) 6131 19240
Graichen: During business hours :+49(0)6251 7707880
Graichen: Outside business hours:+49(0)172 7478476
USA / CAN : 800-424-9300 (available 24 hrs)

2 Hazard(s) identification

Classification of the substance or mixture

Acute Toxicity - Oral 4 H302 Harmful if swallowed.
Acute Toxicity - Dermal 4 H312 Harmful in contact with skin.
Skin Irritation 2 H315 Causes skin irritation.
Sensitization - Skin 1 H317 May cause an allergic skin reaction.
Aquatic Acute 2 H401 Toxic to aquatic life.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

Label elements

GHS label elements: The product is classified and labeled according to the Globally Harmonized System (GHS).

Hazard pictograms



GHS07

Signal word

Warning

Hazard-determining components of labeling:

hexamethylene diacrylate
Photoinitiator

Hazard statements

Harmful if swallowed or in contact with skin.
Causes skin irritation.
May cause an allergic skin reaction.
Toxic to aquatic life.

Precautionary statements

Harmful to aquatic life with long lasting effects.
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
Contaminated work clothing must not be allowed out of the workplace.
Avoid release to the environment.
Wear protective gloves / protective clothing.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
If on skin: Wash with plenty of water.
Take off contaminated clothing and wash it before reuse.
If skin irritation or rash occurs: Get medical advice/attention.
Specific treatment (see on this label).
Wash contaminated clothing before reuse.
Dispose of contents/container in accordance with local/regional/national/international regulations.

Additional information:

7.5 % of the mixture consists of component(s) of unknown toxicity.

Information pertaining to particular dangers for man and environment:

NFPA ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 0
Reactivity = 0

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Other hazards

- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Dangerous components:

	Acrylated monomer 3 ⚠ Skin Irritation 2, H315	10 – 25%
	Acrylated oligomer 2 ⚠ Skin Irritation 2, H315	10 – 25%
	Acrylated oligomer 3 ⚠ Skin Irritation 2, H315	10 – 25%
	Acrylated monomer 2 ⚠ Skin Irritation 2, H315	10 – 25%
	Acrylated monomer 1 ⚠ Skin Irritation 2, H315	10 – 25%
	Acrylated oligomer 1 ⚠ Skin Irritation 2, H315	2.5 – 10%
CAS: 13048-33-4	hexamethylene diacrylate ⚠ Aquatic Acute 1, H400; Aquatic Chronic 2, H411; ⚠ Skin Irritation 2, H315; Eye Irritation 2A, H319; Sensitization - Skin 1, H317	2.5 – 10%
CAS: 947-19-3	Photoinitiator ⚠ Sensitization - Skin 1, H317	< 2.5%

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

4 First-aid measures

Description of first aid measures

- General information: Take affected persons out of danger area and lay down.
- 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. Use a respiration bag or breathing device.
- After skin contact: Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Induce vomiting, only if affected person is fully conscious.
Drink copious amounts of water and provide fresh air. Immediately call a doctor.
A person vomiting while lying on their back should be turned onto their side.
- 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: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
- For safety reasons unsuitable extinguishing agents: Full jet water
- Special hazards arising from the substance or mixture: No further relevant information available.
- Advice for firefighters
- Protective equipment: Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

- Ensure adequate ventilation
- Keep away from ignition sources
- Wear protective equipment. Keep unprotected persons away.

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- . **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
Inform respective authorities in case of seepage into water course or sewage system.
Keep contaminated washing water and dispose of appropriately.
- . **Methods and material for containment and cleaning up:** Absorb liquid components with liquid-binding material.
- . **Reference to other sections** 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	hexamethylene diacrylate	3 mg/m ³
. PAC-2:		
CAS: 13048-33-4	hexamethylene diacrylate	170 mg/m ³
. PAC-3:		
CAS: 13048-33-4	hexamethylene diacrylate	990 mg/m ³

7 Handling and storage

- . **Handling:**
- . Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
Ensure that suitable extractors are available on processing machines
- . Information about protection against explosions and fires: Keep ignition sources away - Do not smoke.
- . **Conditions for safe storage, including any incompatibilities**
- . Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
- . Information about storage in one common storage facility: Do not store together with alkalis (caustic solutions).
Store away from oxidizing agents.
Store away from reducing agents.
- . Further information about storage conditions: Store receptacle in a well ventilated area.
Store in a cool place.
Protect from heat and direct sunlight.
- . **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 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 hexamethylene 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**
- . Personal protective equipment:
- . General protective and hygienic measures: Wash hands before breaks and at the end of work.
Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
- . 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: 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.

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- . Eye protection: Tightly sealed goggles
Face protection
- . Body protection: Protective work clothing
Solvent resistant protective clothing

9 Physical and chemical properties

. Information on basic physical and chemical properties

. General Information

. Appearance:

- . Form: Liquid
- . Color: Whitish
- . Odor: Characteristic
- . Odor threshold: Not determined.

. pH-value at 20 °C (68 °F): 7.7

. Change in condition
Boiling point/Boiling range: > 145 °C (> 293 °F)

. Flash point: Not applicable.

. Flammability (solid, gaseous): Not determined.

. Decomposition temperature: Not determined.

. Ignition temperature: Product is not selfigniting.

. Danger of explosion: Not determined.

. Vapor pressure: Not determined.
Not applicable.

. Density at 20 °C (68 °F): 1.08 g/cm³ (9.0126 lbs/gal)

. Relative density: Not determined.

. Vapor density: Not applicable.

. Evaporation rate: Not applicable.

. Solubility in / Miscibility with
Water: Soluble.

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

. Viscosity:
Dynamic at 20 °C (68 °F): 250 – 350 mPas
Kinematic: Not applicable.

. Solvent content:
VOC content: 0.00 %

. 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 and stored 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:** Carbon monoxide and carbon dioxide

11 Toxicological information

. Information on toxicological effects

. Acute toxicity:

. LD/LC50 values that are relevant for classification:

Oral LD50 > 1,050 mg/kg (rat)

Dermal LD50 > 1,050 mg/kg (rat)

CAS: 13048-33-4 hexamethylene diacrylate

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

Dermal LD50 > 3,000 mg/kg (rab)

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. Primary irritant effect:
 . on the skin: No irritant effect.

. on the eye:
 Irritation of eyes | Augenreiz- und -ätzwirkung | (rab)

. Sensitization:
 Sensitization | Sensibilisierung |

. Additional toxicological information:

. 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:

LC50 acute (96h) > 25 mg/l (danio rerio/ Zebraabrling)
 EC50 (48h) > 300 mg/l (Ceriodaphnia dubia (Wasserfloh))
 EC50 (72h) ≥ 200 mg/l (Lemna aequinoctialis - Wasserpflanzen)

. Persistence and degradability

Biodegradability | %

. 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 1 (Self-assessment): slightly hazardous for water
 Do not allow undiluted product or large quantities of it to reach ground water, water course
 or sewage system.

. Results of PBT and vPvB assessment

. PBT: Not applicable.

. vPvB: Not applicable.

. Other adverse effects No further relevant information available.

13 Disposal considerations

. Uncleaned packagings:

. Recommendation: Non contaminated packagings can be treated like household garbage.

. Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

. UN-Number

. DOT, ADR, ADN, IMDG, IATA Void

. UN proper shipping name

. DOT, ADR, ADN, IMDG, IATA Void

. Transport hazard class(es)

. DOT, ADR, ADN, IMDG, IATA

. Class Void

. Packing group

. DOT, ADR, IMDG, IATA Void

. Environmental hazards: Not applicable.

. Special precautions for user Not applicable.

. Transport in bulk according to Annex II of MARPOL73/78
 and the IBC Code Not applicable.

. UN "Model Regulation": Void

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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.

. Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

. TSCA (Toxic Substances Control Act):

CAS: 13048-33-4 | hexamethylene diacrylate

ACTIVE

CAS: 947-19-3 | Photoinitiator

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)

None of the ingredients is listed.

. TLV (Threshold Limit Value)

None of the ingredients is listed.

. MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

. 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



GHS07

. Signal word

Warning

. Hazard-determining components of labeling:

hexamethylene diacrylate

Photoinitiator

. Hazard statements

Harmful if swallowed or in contact with skin.

Causes skin irritation.

May cause an allergic skin reaction.

Toxic to aquatic life.

Harmful to aquatic life with long lasting effects.

. Precautionary statements

Avoid breathing dust/fume/gas/mist/vapors/spray

Wash thoroughly after handling.

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

Contaminated work clothing must not be allowed out of the workplace.

Avoid release to the environment.

Wear protective gloves / protective clothing.

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

Rinse mouth.

If on skin: Wash with plenty of water.

Take off contaminated clothing and wash it before reuse.

If skin irritation or rash occurs: Get medical advice/attention.

Specific treatment (see on this label).

Wash contaminated clothing before reuse.

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

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

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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: Environment protection department.

. Contact:

. Date of preparation / last revision 11/22/2023

. 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
 PEL: Permissible Exposure Limit
 REL: Recommended Exposure Limit
 Acute Toxicity - Oral 4: Acute toxicity – Category 4
 Skin Irritation 2: Skin corrosion/irritation – Category 2
 Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
 Sensitization - Skin 1: Skin sensitisation – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Acute 2: Hazardous to the aquatic environment - acute aquatic hazard – Category 2
 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

. * Data compared to the previous version altered.

US