

1. IDENTIFICATION OF SUBSTANCES / PREPARATION AND COMPANY

Product Name: Pegasus Plus Repair Acrylic Liquid
 Product Code: 524, 526, 527, 529

Application: Repair of acrylic denture bases

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2. HAZARD IDENTIFICATION

2.1 Classification of the substance or mixture

This substance is classified as hazardous according to GHS.
Regulation EC1272/2008

| | | | |
|----------|------|--|--------------------|
| Physical | H225 | Flammable Liquids | Hazard category 2 |
| Health | H315 | Irritation of skin | Hazard category 2 |
| | H317 | Skin sensitisation | Hazard category 1B |
| | H335 | Specific Target Organ Toxicity - Single exposure (inhalation) | Hazard category 3 |

2.2 Label elements

In Accordance with Regulation EC 1272/2008

Signal word Danger

GHS Pictogram



H315 H317 H335



H225

| | | |
|------------------|------|-------------------------------------|
| Hazard Statement | H225 | Highly flammable liquid or vapour |
| | H315 | Causes skin irritation |
| | H317 | May cause an allergic skin reaction |
| | H335 | May cause respiratory irritation |

Precautionary Statement
 (Prevention)

| | |
|------|---|
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. |
| P261 | Avoid breathing dust/fume/gas/mist/vapours/spray |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection |

(Response)

| | |
|--------------|--|
| P303+361+353 | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. |
|--------------|--|

(Disposal) P501 Dispose of contents/container in accordance with local regulation

Hazardous components for labelling Methyl methacrylate

2.3 Other hazards

Polymerisation with heat evolution may occur in the presence of radical forming substances (e.g peroxides), reducing substances, and/or heavy metal ions.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances

In accordance with Regulation EC 1272/2008

| Component | CAS No. EC Index No. REACH No. EINECS No. | Content | Hazard/category/statement |
|--------------------------------|--|---------|---|
| Methyl Methacrylate | 80-62-6 607-035-00-6 01-2119452498-28 201-29701 | >90% | Flam. Liq./2/H225 Skin Irrit./2/H315 Skin Sens./1/H317 STOT SE (inhalation)/3/H335 |
| Ethylene Glycol Dimethacrylate | 97-90-5 607-114-99-5 Pre-registered 202-617-2 | 2.5-10% | Skin Sens./1/H317 STOT SE (inhalation)/3/H335 |
| N, N-Dimethyl-p-toluidine | 99-97-8 612-056-00-9 Pre-registered 202-805-4 | <1% | Acute Tox. (oral)/3/H301 Acute Tox. (dermal)/3/H311 Acute Tox. (inhalation)/3/H331 STOT RE/2/H373 Chronic Tox. (aquatic)/3/H412 |

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice Medical treatment is necessary if symptoms occur which are obviously caused by skin or eye contact with the product, or by vapour inhalation. Remove soiled soaked clothing immediately.

Inhalation Move casualty to fresh air and keep them calm. Seek medical attention.

Skin contact Wash off immediately with soap and water. If skin irritation occurs, seek medical attention.

Eye contact Holding eyelids open, immediately rinse thoroughly with plenty of water. Seek medical advice.

Ingestion Do not induce vomiting. Immediately contact a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Causes skin and eye irritation. Skin sensitisation.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media: Foam, dry powder, carbon dioxide

Unsuitable extinguishing media: Water

5.2 Special hazards arising from the substance or mixture: No

5.3 Advice for firefighters: Wear self-contained breathing apparatus and full protective clothing

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective clothing. Keep away from sources of ignition. Use breathing apparatus if exposed to vapour/dust/mist/aerosol.

6.2 Environmental procedures

Do not allow to enter drains/surface water/ground water/sewerage systems. If entry occurs IMMEDIATELY alert The Environment Agency or other equivalent appropriate body.

6.3 Methods and material for containment and cleaning up

Larger volumes: remove mechanically (by pumping). Use explosion-proof equipment. Smaller volumes and/or residues: contain with absorbent material (eg. sand, diatomaceous earth, acid absorbent, universal absorbent or sawdust). Dispose of in accordance with local regulations.

6.4 Reference to other sections

For personal protection see section 8.

For disposal considerations see section 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Ensure the area is well ventilated. Keep container tightly closed. Keep away from heat, sparks and open flame – no smoking. Take precautionary measures against static discharge. In the event of fire, use explosion-proof equipment only. Cool the endangered containers with water. When heated above the flashpoint and/or during spraying (atomising), ignitable mixtures may form in air.

7.2 Conditions of safe storage, including any incompatibilities

Keep only in the original container and do not allow temperature to exceed 30°C. Protect from light. Fill the container by approx. 90% only as oxygen (air) is required for stabilisation. With large storage containers, ensure oxygen supply is sufficient to allow stability. Can polymerise with intense heat release.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components or products of decomposition according to point 10, with limit values related to the place of work which requires monitoring.

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Methyl Methacrylate

WEL (8hrs)
WEL (15mins)

CAS No. 80-62-6

208mg/m³ 50 ppm
416 mg/m³ 100 ppm

8.2 Exposure controls

Derived No-Effect Level (DNEL)

| Critical Component | Routes of Exposure (LONG-TERM) | DNEL |
|---------------------|--------------------------------|--|
| Methyl Methacrylate | Inhalation Dermal Oral | 210mg/m ³ 74.3mg/m ³ - |

Predicted No-Effect Concentration (PNEC)

| Critical Component | Routes of Exposure (LONG-TERM) | PNEC |
|---------------------|--------------------------------|--------------------|
| Methyl Methacrylate | Water Soil Air | 0.94mg/l - - |

General protective measures: Do not inhale vapours. Avoid contact with eyes and skin.

8.3 Personal Protective Equipment



Hygiene measures: Store work clothes separately. Remove soiled or soaked clothing immediately. Follow the usual good standards of occupational hygiene. Clean skin thoroughly after handling. Apply skin cream.

Respiratory protection: If ventilation is insufficient, breathing apparatus to be used in case of high concentrations, short term: filter appliance, filter A.

Hand protection: Butyl rubber gloves (0.7mm), break through time 60 minutes (EN 374:2004). In practice, due to variable exposure conditions, this information can only be used as an aid to selection of a suitable chemical protection glove. This information does not substitute suitability tests by the end user. A suitable glove type should be selected for each work environment. Gloves should be replaced regularly, especially after extended contact with the substance.

Eye protection: Wear approved, tightly fitting safety goggles.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Form: Liquid
Colour: Colourless
Odour: Ester-like

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| | |
|---------------------------|---|
| Melting Temperature: | -48°C |
| Boiling Temperature: | 100.3°C @ 1.013hPa |
| Flashpoint: | 10°C (method DIN 51755 - closed cup) |
| Ignition Temperature: | 430°C (method DIN 51794) |
| Lower Explosion Limit: | 2.1% vol. @ 10.5°C |
| Upper Explosion Limit: | 12.5% vol. |
| Vapour Pressure: | 47hPa @ 20°C |
| Relative Density: | 0.94g/cm ³ @ 20°C |
| Relative Vapour Density: | >1 @ 20°C (related to air) |
| Solubility in Water: | 1.6g/l @ 20°C, difficult to mix |
| Solubility (Qualitative): | Miscible with most organic solvents |
| pH value: | Not applicable |
| Partition Co-efficient: | logPow 1.38 (measured, n-Octanol/water) |
| Viscosity (Dynamic): | 0.6mPa·s @ 20°C (method Brookfield) |

9.2 Other information

None

10. STABILITY AND REACTIVITY

10.1 Reactivity

Refer to sections 2.3 and 10.2

10.2 Chemical stability

Stable under normal temperature conditions and when used as directed. No decomposition occurs when used as directed.

10.3 Possibility of hazardous reactions

Refer to section 2.3.

10.4 Conditions to avoid

The substance is normally supplied in a stabilised form. If the permissible storage period/storage temperature is exceeded, the product may polymerise with heat generation. Avoid excessive heat for long periods of time. Avoid heat, flames and other sources of ignition.

10.5 Incompatible materials

Free radical initiators
Reducing agents
Tertiary amines
Heavy metals
Peroxides
Oxidising agents
Mineral acids
Strong acids/alkalis

10.6 Hazardous decomposition products

Oxides of carbon. No decomposition occurs when used as directed.

11. TOXICOLOGY INFORMATION

11.1 Information on toxicological effects

| | | |
|--|--|--|
| Metabolism: | The substance is rapidly metabolised | |
| Acute Oral Toxicity: | LD ₅₀ rat | >5000mg/kg |
| | LD ₅₀ mouse | =5200mg/kg |
| | LD ₅₀ rabbit | >5000mg/kg |
| Acute Inhalation Toxicity: | LC ₅₀ rat, 4h | 29.8mg/l |
| | LC ₅₀ mouse, 3h | 33mg/l |
| Acute Dermal Toxicity: | LD ₅₀ rabbit | >5000mg/kg |
| Caustic Burning/Skin Irritation: | Rabbit, 24h (OECD 405) If skin contact is prolonged and/or frequent, irritations cannot be excluded. Skin Irritant Category 2 (UN-GHS) | Not irritating- slightly irritating |
| Serious Eye Damage/Irritation: | Rabbit, 24h | Not irritating- slightly irritating |
| Respiratory/Skin Sensitisation: | Guinea pig (OECD 406) Repeated exposure may cause skin dryness or cracking. In humans, various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affectations). Skin Irritant Category 1B (UN-GHS) | Sensitising |
| Aspiration Hazard: | No evidence for hazardous properties (structure-activity relationship). | |
| Germ Cell Mutagenicity: | +ve as well as -ve results in <i>in vitro</i> mutagenicity /genotoxicity tests. No experimental evidence of genotoxicity <i>in vivo</i> is available. In general, not mutagenic according to international criteria | |
| Carcinogenicity: | Non-carcinogenic in inhalation and feeding studies performed in rats, mice and dogs | |
| Reprotoxicity/Teratogenicit: | No indication of toxic effects in experimental models | |
| Human Health Hazard Assessment: | CMR:no | |
| Specific Target Organ Toxicity - single exposure: | respiratory tract irritation | Hazard Category 3 |
| Specific Target Organ Toxicity - repeated exposure: | no evidence for hazardous properties rat, inhalation, 25-400ppm | NOAEL, 25ppm |

Findings: damage to nasal mucous membrane 400ppm
 Rat, dilute ingestion, 6-2000ppm NOAEL, 2000ppm
 Findings: no toxic effect

General Information: Avoid contact with skin and eyes and inhalation of substance vapours.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

| | | |
|------------------------------|---|-----------------------------------|
| Aquatic Environment | Hazardous to the aquatic environment | Acute Aquatic Toxicity Category 3 |
| Aquatoxicity, fish | LC ₅₀ Oncorhynchus mykiss, 96h LC ₅₀ Lepomis macrochirus, 72h LC ₅₀ Lepomis macrochirus, 96h | >79mg/l 264mg/l 191mg/l |
| Aquatoxicity, invertebrates | EC ₅₀ Daphnia magna, 48h (OECD 202) Daphnia magna, 21d flow through (OECD 202) | 69mg/l NOEC, 37mg/l |
| Aquatoxicity, aquatic plants | EC ₅₀ Selenastrum capricornutum, 72hr (OECD 201) EC3 Scenedesmus quadricauda, 8d (DIN 38412:9) | >110mg/l 37mg/l |
| Toxicity in Microorganisms | EC3 Pseudomonas putida, 16h | 100mg/l |

12.2 Persistence and degradability

| | | |
|-------------------------------|--|-----|
| Persistence and Degradability | No evidence for hazardous properties | |
| Biodegradability | Readily degradable, 14d, 28d (OECD 301, 301C) The substance is inherently biodegradable, but not readily biodegradable to OECD criteria | 94% |

12.3 Bioaccumulative potential

| | |
|-----------------|--------------------------------------|
| Bioaccumulation | No evidence for hazardous properties |
|-----------------|--------------------------------------|

12.4 Mobility in soil

| | |
|----------|---|
| Mobility | The substance has poor water solubility. No evidence for hazardous properties. |
|----------|---|

12.5 Results of PBT and vPvB assessment

| | |
|---------------------------------------|------------------------|
| Persistent, Bioaccumulative or Toxic | No (REACH, Annex VIII) |
| very Persistent, very Bioaccumulative | No (REACH, Annex VIII) |

12.6 Other adverse effects

| | |
|---------------------|--|
| General Information | Do not allow to enter soil, waterways or waste water |
|---------------------|--|

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

- Substance:** Waste is hazardous and to be treated as controlled waste. Product must be disposed of as special waste after consultation with local waste authorities and the disposal company in a suitable and licensed facility.
- Packaging:** Contaminated packaging should be emptied optimally and after appropriate professional cleaning may be taken for re-use. Packaging that cannot be cleaned should be disposed of professionally. Do not puncture or incinerate,

even when empty. Contaminated rags and the like must be discarded into designated a fireproof bucket.

| | |
|-----------------------|---|
| List of Waste, LOW | Chemicals and gases in containers, 16 05 |
| 16 05 06 | Laboratory chemicals, consisting of or containing dangerous substances, including mixtures of laboratory chemicals. |
| 16 05 08 | Discarded organic chemicals consisting of or containing dangerous substances. |

14. TRANSPORT INFORMATION

14.1 UN number UN 1247 Hazard Class 3, flammable liquids Packing Group II



14.2 UN proper shipping name

| | | |
|--|-----------------------|--|
| Land Transport ADR/GGVSEB | UN/Germany UN 1247 | METHYL METHACRYLATE MONOMER MONOMER, STABILISED, Class 3, Group II, Tunnel restriction code D/E Hazard no. 339 |
| Land Transport RID/GGVSEB | UN 1247 | METHYL METHACRYLATE MONOMER MONOMER, STABILISED, Class 3, Group II Hazard no. 339 |
| Inland Waterway Transport ADNR/GGVSEB | UN 1247 | METHYL METHACRYLATE MONOMER MONOMER, STABILISED, Class 3, Group II |
| Shipment by Sea IMDG/GGVSee | UN 1247 | METHYL METHACRYLATE MONOMER MONOMER, STABILISED, Class 3, Group II EmS F-E, S-D Marine pollutant No |
| Air Transport ICAO/IATA | UN 1247 | METHYL METHACRYLATE MONOMER MONOMER, STABILISED, Class 3, Group II |

14.3 Transport hazard class(es)

Refer to section 14.2

14.4 Packing group

Refer to section 14.2

14.5 Environmental hazards

Refer to section 14.2, not applicable if unmentioned

14.6 Special precautions for user

Refer to section 14.2

14.7 Transport in bulk according to the IBC code

For transport approval see regulatory information:

MARPOL 73/78, Annex II – Regulations for Control of Pollution by Noxious Liquid Substances in Bulk.

SOLAS Chapter VII – Carriage of Dangerous Goods.

SAFETY DATA SHEET

- References:** Quoted manuals and standards
IMO
OECD-SIDS
SIAR
NIH
NIOSH
OHSA
UNECE