

1. IDENTIFICATION OF SUBSTANCES / PREPARATION AND COMPANY

Product Name: Pegasus Plus Denture Base Liquid
 Product Code: 509, 514, 515, 516, 518

Application: Heat cure acrylic denture base material

Company: Davis Schottlander & Davis Ltd
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2. HAZARD IDENTIFICATION

Classification of the substance or mixture

This substance is classified as hazardous according to GHS.

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

Label elements

Signal word Danger (code: Dgr)

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

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 01-2119452498-28 201-297-1	>90%	Flam. Liq./2/H225 Skin Irrit./2/H315 Skin Sens./1/H317 STOT SE (inhalation)/3/H335
Ethylene Glycol Dimethacrylate	97-90-5 607-114-00-5 Pre-registered 202-617-2	2.5-10%	Skin Sens./1/H317 STOT SE (inhalation)/3/H335

4. FIRST AID MEASURES

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.
- Self-protection of first-Aider: No specific protection is required. Gloves are recommended.

Most important symptoms and effects, both acute and delayed

Causes skin and eye irritation. Skin sensitisation.

Indication of any immediate medical attention and special treatment needed

Seek immediate medical attention if symptoms indicate excessive exposure to eyes or skin.

5. FIRE FIGHTING MEASURES**Extinguishing media**

Suitable extinguishing media: Foam, dry powder, carbon dioxide
Unsuitable extinguishing media: Water

Special hazards arising from the substance or mixture:

No

Advice for fire fighters:

Wear self-contained breathing apparatus and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

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

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.

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.

Reference to other sections

For personal protection see section 8.

For disposal considerations see section 13.

7. HANDLING AND STORAGE**Precautions for safe handling****Measures to Prevent Fire**

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.

Measures to Protect the Environment

Avoid spills. Keep substance away from drains to sewer. Keep container tightly closed.

General Occupational Hygiene

Do not eat, drink or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

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.

Specific end use(s):

No

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

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

Methyl Methacrylate	CAS No. 80-62-6	
WEL (8hrs)	208mg/m ³	50 ppm
WEL (15mins)	416 mg/m ³	100 ppm

Exposure controls:

Monitoring Data: For monitoring procedures and technical data refer to, for instance, The National Institute for Health & Safety (NIOSH) – Manual of Analytical Methods, method 2537; Occupational Health & Safety Administration (OHSA)

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.

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.

Body protection:

On handling larger quantities: face mask, chemical-resistant boots and rubber apron.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Form:	Liquid
Colour:	Colourless
Odour:	Ester-like
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)

Other information: None

10. STABILITY AND REACTIVITY

Reactivity:

Refer to sections 2.3 and 10.2

Chemical stability:

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

Possibility of hazardous reactions:

Refer to section 2.3.

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.

Incompatible materials:

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

Hazardous decomposition products:

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

11. TOXICOLOGY INFORMATION

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/Teratogenicity:	No indication of toxic effects in experimental models	
Human Health Hazard Assessment:	CMR:no	
Specific Target Organ Toxicity -	respiratory tract irritation	Hazard Category 3

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single exposure:

Specific Target Organ Toxicity - no evidence for hazardous properties
 repeated exposure: 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

Ecotoxicity:

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

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%

Bioaccumulative potential:

Bioaccumulation	No evidence for hazardous properties
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Mobility in soil:

Mobility	The substance has poor water solubility. No evidence for hazardous properties.
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Results of PBT and vPvB assessment:

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

Other adverse effects:

General Information	Do not allow to enter soil, waterways or waste water
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13. DISPOSAL CONSIDERATIONS

Waste treatment methods:

Substance:

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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.

Always check the given waste code according to the actual conditions of manufacturing, formulation or use in your facility.

14. TRANSPORT INFORMATION

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



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 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

Transport hazard class(es):

Refer to section 14.2

Packing group:

Refer to section 14.2

Environmental hazards:

Refer to section 14.2, not applicable if unmentioned

Special precautions for user:

Refer to section 14.2

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 Substance in Bulk. SOLAS Chapter VII – Carriage of Dangerous Goods.

15. REGULATORY INFORMATION

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

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).

REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

National Legislation

Occupational Restrictions:	Note for juveniles Note for pregnant women and nursing mothers EC Directive 92/85/EEC	
Status of Registration	REACH (EU) registered/pre-registered TSCA (USA) listed or exempt DSL (CDN) listed or exempt AICS (AUS) listed or exempt METI (J) listed or exempt ECL (KOR) listed or exempt PICCS (RP) listed or exempt IECSC (CN) listed or exempt HSNO (NZ) listed or exempt	Code: HSR001195

Chemical safety assessment

Labelling in accordance with GefStoffV/EC Methyl Methacrylate

Hazard symbols F Highly flammable
Xi Irritant

H-statements from

SAFETY DATA SHEET

Section 3	H225	Highly flammable liquid and vapour
	H315	Causes skin irritation
	H317	May cause an allergic skin reaction
	H335	May cause respiratory irritation

16. FURTHER INFORMATION

The substance is normally supplied in a stabilised form. If the permissible storage period and/or storage temperature is noticeably exceeded, the substance may polymerise with heat evolution. The instructions given here are valid only for the substance as supplied, not for derivatives resulting from its use.

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

Revision

This document differs from the previous version in the following areas:

Title Revised to state in Accordance with Regulation (EU) 2015/830

15 Inclusion of Statements regarding pertinent EU regulations.

16 Addition of detailed revision information.

This datasheet has been re-written and replaces all previous versions. The information and all further technical advice is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the substances in terms of their safety and handling requirements. The instructions given here are valid only for the product as supplied, not for derivatives resulting from its use. It implies no liability or other legal responsibility on our part. In particular, no warranty, whether expressed or implied, or guarantee of product properties in the legal sense is intended or implied. We reserve the right to make any changes according to technological progress or further developments. The customer is not released from the obligation to conduct careful inspection of incoming goods.