

1. IDENTIFICATION OF SUBSTANCES / PREPARATION AND COMPANY

Product Name: Pegasus Pourable Cold Cure Liquid
 Product Code: 225, 227

Application: With Pegasus Pourable Cold Cure Powder forms a cold cured Acrylic denture base.

Company: Davis Schottlander & Davis Ltd
 Fifth Avenue, Letchworth Garden City,
 Herts SG6 2WD UK
 Tel: +44 (0)1462 480848 Fax: +44 (0)1462 482802
msds@schottlander.co.uk www.schottlander.com

Date: 05.08.2015 V3.0

2. HAZARD IDENTIFICATION

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

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.

P501 Dispose of contents/container in accordance with local Regulations.

Hazardous components for labelling:

Methyl methacrylate.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS No, EC Index No, REACH No, EINECS No	% w/w	LTEL	Hazard/category/statement
Methyl Methacrylate	80-62-6 607-035-00-6 01-2119452498-28 201-29701	>96%	208 mg/m ³	Flam. Liq./2/H225 Skin Irrit./2/H315 Skin Sens./1/H317 STOT SE (inhalation)/3/H335
1,4- Butanediol dimethacrylate	208-81-7 - Pre-registered 218-218-1	<4.0%	-	Skin Irrit./2/H315 Eye Irrit/2a/H319 STOT SE (inhalation)/3/H335

In Accordance with Directive 67/548/EC or Directive 1999/45/EC

Component	CAS No.	Hazard symbol – R Phrase	Content
Methyl Methacrylate	80-62-6	F,Xi – 11,36/37/38, 43	>96%
1,4- Butanediol dimethacrylate	2082-81-7	Xi 36/37/38, 43	<4.0%

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.

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:

None.

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:

None

Advice for firefighters:

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.

7. HANDLING AND STORAGE

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.

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

Exposure controls:

Monitoring Date: For monitoring procedures and technical data refer to, for instance, The National Institute for Health and Safety (NIOSH) – Manual of Analytical Methods, method 2537.

Derived No-effect Level (DNEL):

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

Predicted No-Effect Concentration (PNEC):

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

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Form:	Liquid	Colour:	Colourless
Odour:	Ester-like	Melting Temp:	-48°C
Boiling Temp:	100.3°C @ 1.013hPa	Flashpoint:	10°C (method DIN 51755 – closed cup)
Ignition Temp:	430°C (method DIN 51794)	Lower Explosion Limited:	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 normal 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
 Heat 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
	LD ₅₀ rabbit	>5000mg/kg
Acute Dermal Toxicity:	Rabbit, 25h (OECD 405)	Not irritating-slightly irritating
Caustic Burning/Skin Irritation:	If skin contact is prolonged and/or frequent, irritations cannot be excluded.	
	Skin Irritant Category 2 (UN-GHS)	
Serious Eye Damage/Irritation:	Rabbit, 24h	Not irritating-slightly irritating
	Respiratory/Skin Sensitisation:	Guinea pig (OECD 406)
Respiratory/Skin Sensitisation:	Repeated exposure may cause skin dryness or cracking. In humans, various types of allergic reactions have been observed (symptoms: headache, eye irritations, skin affections).	
	Skin Irritant Category 1B (UN-GHS)	
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:	
Carcinogenicity:	Non-carcinogenic in inhalation and feeding studies performed in rats, mice and dogs.	
	No indication of toxic effects in experimental.	
Reprotoxicity/Teratogenicity:	CMR:no	
Human Health Hazard Assessment:		
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

General Information:

 Findings: No toxic effect
 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

Mobility in soil:

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

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.
---------------------	---

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.

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 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
Marine pollutant

F-E, S-D
No

Air Transport ICAO/IATA UN 1247

METHYL METHACRYLATE MONOMER MONOMER,
STABILISED, Class 3, Group II

15. REGULATORY INFORMATION

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

National Legislation

Occupational Restrictions:

Note for juveniles.

Note for pregnant women and nursing mothers

EC Directive 92/85/EEC

Status of Registration:

REACH (EU)
TSCA (USA)
DSL (CDN)
AICS (AUS)
METI (J)
ECL (KOR)
PICCS (RP)
IECSC (CN)

registered/pre-registered
listed or exempt
listed or exempt

HSNO (NZ) listed or exempt Code: HSR001195

Chemical safety assessment:

Labelling in accordance with GefStoffV/EC		Methyl Methacrylate
Hazard symbols	F Xi	Highly flammable Irritant
H-statements from Section 3	H225 H315 H317 H335	Highly flammable liquid and vapour Causes skin irritation May cause an allergic skin reaction May cause respiratory irritation
R-phrases from Section 3	R11 R36/37/38 R43	Highly flammable Irritating to eyes, respiratory system and skin May cause sensitisation by skin contact

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 data given above covers exclusively the safety requirements of the product(s) and is based on our current knowledge and experience. It does not signify any warranty with regards to the products properties. This product is only supplied for specific uses in dentistry and must be used in accordance with the directions for use.