Safety Data Sheet in compliance with Indian Manufacture, Storage and Import of Hazardous Chemical (Amendment) Rules, 2000

545 Thread Sealant Pneumatic/Hydraulic Fittings

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SECTION 1: Identification of the substance/mixture and of the company/undertaking

Product identifier

545 Thread Sealant Pneumatic/Hydraulic Fittings

Material: 135486

Relevant identified uses of the substance or mixture and uses advised against

Intended use:
Anaerobic Sealant

Identification of manufacturer, importer or distributor:

importer: Henkel Adhesives Technologies India Pvt. Ltd. D3/D4, MIDC, Jejuri - 412303 India. TEL : +91 2115 300017 / 18 FAX : + 91 2115 253448, Website : www.henkel.com

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification (DPD):

Xi - Irritant
R36/37/38 Irritating to eyes, respiratory system and skin.
Sensitizing
R43 May cause sensitisation by skin contact.
Xn - Harmful
R20 Harmful by inhalation.
Dangerous for the environment
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Label elements

Label elements (DPD):

Risk phrases:

R20 Harmful by inhalation.
R36/37/38 Irritating to eyes, respiratory system and skin.
R43 May cause sensitisation by skin contact.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases:

S23 Do not breathe vapour.
S24 Avoid contact with skin.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28 After contact with skin, wash immediately with plenty of water and soap.
S37 Wear suitable gloves.
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets.

SECTION 3: Composition/information on ingredients

Declaration of ingredients according to DPD (EC) No 1999/45:

Hazardous components CAS-No.	EC Number	content	Classification
2-Hydroxyethyl methacrylate 868-77-9	212-782-2	1 - 40 %	Xi - Irritant; R36/38 R43
Cumene hydroperoxide 80-15-9	201-254-7	1 - 30 %	T - Toxic; R23 Xn - Harmful; R21/22, R48/20/22 C - Corrosive; R34 O - Oxidizing; R7 N - Dangerous for the environment; R51/53
N,N-Diethyl-p-toluidine 613-48-9	210-345-0	0,1 - 10 %	T - Toxic; R23/24/25 R33 R52/53
Maleic acid 110-16-7	203-742-5	0,1 - 10 %	Xn - Harmful; R21/22 Xi - Irritant; R36/37/38, R43
Acetic acid, 2-phenylhydrazide 114-83-0	204-055-3	0,1 - 10 %	Xn - Harmful; R22, R40 Xi - Irritant; R36/37/38, R43
Cumene 98-82-8	202-704-5	0,1 - 10 %	R10 Xn - Harmful; R65 Xi - Irritant; R37 N - Dangerous for the environment; R51/53
N,N-dimethyl-o-toluidine 609-72-3	210-199-8	0,1 - 10 %	T - Toxic; R23/24/25 R33 R52/53
Methacrylic acid 79-41-4	201-204-4	0,1 - 10 %	C - Corrosive; R35 Xn - Harmful; R20/21/22

For full text of the R-Phrases indicated by codes see section 16 'Other Information'.
Substances without classification may have community workplace exposure limits available.

Section 4. First aid measures

Inhalation:
Move to fresh air.
If not breathing, give artificial respiration.
If breathing is difficult, give oxygen.
If symptoms develop and persist, get medical attention.

Skin contact:
Remove contaminated clothing and footwear.
Wash with soap and water.
If symptoms develop and persist, get medical attention.
Wash clothing before reuse.

Eye contact:
Flush with copious amounts of water, preferably, lukewarm water for at least 15 minutes, holding eyelids open all the time.
Get medical attention.

Ingestion:
Do not induce vomiting.
Keep individual calm.
Get medical attention.

Section 5. Fire fighting measures

Suitable extinguishing media: Foam, dry chemical or carbon dioxide.

Specific hazards arising from the chemical: None

Special protection equipment and precautions for firefighters: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

Hazardous combustion products: Oxides of carbon.
Oxides of sulfur.
Oxides of nitrogen.
Irritating organic vapours.

Section 6. Accidental release measures

Environmental precautions: Do not allow product to enter sewer or waterways.

Clean-up methods: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Store in a partly filled, closed container until disposal.

SECTION 7: Handling and storage

Precautions for safe handling

Prevent contact with eyes, skin and clothing. Do not breathe vapor and mist. Wash thoroughly after handling.

Section 8. Exposure controls / personal protection

Ingredient [Regulated substance]	Value type	ppm	mg/m³	Remarks

Respiratory protection: If airborne concentrations are above the applicable exposure limits, use NIOSH approved respiratory protection.
Use an organic vapor respirator for concentrations exceeding the Occupational Exposure Limit.

Eye protection: Safety goggles or safety glasses with side shields.

Body protection: Use impermeable gloves and protective clothing as necessary to prevent skin contact.
Butyl rubber gloves.
Natural rubber gloves.
Glove recommendations are based upon permeation study results for similar products.
Neoprene gloves.

Engineering controls: No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.

Hygienic measures: Keep away from food, beverages and animal feed. Wash hands before work breaks and after finishing work. Do not eat, drink or smoke while working. Good industrial hygiene practices should be observed.

SECTION 9: Physical and chemical properties

Appearance:	Purple Liquid
Odor:	mild
Odor threshold (CA):	No data available.
pH:	No data available.
Melting point / freezing point:	No data available.
Specific gravity:	1,02
Boiling point:	> 149 °C (> 300.2 °F)
Flash point: (Tagliabue closed cup)	> 93,3 °C (> 199.94 °F)
Evaporation rate:	No data available.
Flammability (solid, gas):	No data available.
Lower explosive limit:	No data available.
Upper explosive limit:	No data available.
Vapor pressure: (; 27 °C (80.6 °F))	< 5 mm hg
Vapor density:	No data available.
Density:	No data available.
Solubility:	Solvent: Water, Slight
Partition coefficient: n-octanol/water:	No data available.
Auto ignition:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
VOC content:	1,99 % 19,01 g/l

Section 10. Stability and reactivity

Reactivity/Incompatible materials:	Strong oxidizing agents. Reducing agents. Acids. Bases. Rust. Zinc. Aluminum. Iron. copper Alkalis. Aldehydes. Amines. Free radical initiators. Peroxides.
Possibility of hazardous reactions:	Will not occur.
Conditions to avoid:	Exposure to sunlight. Heat, flames, sparks and other sources of ignition. See "Handling and Storage" (Section 7) and "Incompatibility" (Section 10).
Hazardous decomposition products:	Oxides of carbon. Oxides of sulfur. Oxides of nitrogen. Phenolics. Irritating organic vapours.

SECTION 11: Toxicological information

Information on toxicological effects

Skin irritation:
Irritating to the skin.
May cause sensitization by skin contact.

Eye irritation:
Irritating to eyes.

Acute oral toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Cumene hydroperoxide 80-15-9	LD50	550 mg/kg	oral		rat	
Maleic acid 110-16-7	LD50	708 mg/kg	oral		rat	
Cumene 98-82-8	LD50	2.910 mg/kg	oral		rat	
Methacrylic acid 79-41-4	LD50	1.320 mg/kg	oral		rat	OECD Guideline 401 (Acute Oral Toxicity)

Acute inhalative toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
Methacrylic acid 79-41-4	LC50	4,7 mg/l	inhalation	4 h	rat	OECD Guideline 403 (Acute Inhalation Toxicity)

Acute dermal toxicity:

Hazardous components CAS-No.	Value type	Value	Route of application	Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	LD50	> 3.000 mg/kg	dermal		rabbit	
Maleic acid 110-16-7	LD50	1.560 mg/kg	dermal		rabbit	
Cumene 98-82-8	LD50	12.300 mg/kg	dermal		rabbit	
Methacrylic acid 79-41-4	Acute toxicity estimate (ATE)	500 mg/kg	dermal			Expert judgement
Methacrylic acid 79-41-4	LD50	500 - 1.000 mg/kg			rabbit	Dermal Toxicity Screening

Skin corrosion/irritation:

Hazardous components CAS-No.	Result	Exposure time	Species	Method
Cumene hydroperoxide 80-15-9	corrosive		rabbit	Draize Test
Methacrylic acid 79-41-4	Category 1A (corrosive)	4 h	rabbit	OECD Guideline 404 (Acute Dermal Irritation / Corrosion)

Respiratory or skin sensitization:

Hazardous components CAS-No.	Result	Test type	Species	Method
Methacrylic acid 79-41-4	not sensitising	Buehler test	guinea pig	Buehler test

Germ cell mutagenicity:

Hazardous components CAS-No.	Result	Type of study / Route of administration	Metabolic activation / Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	negative	bacterial reverse mutation assay (e.g Ames test)	with and without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
	positive	in vitro mammalian chromosome aberration test	with and without		OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test)
Cumene hydroperoxide 80-15-9	positive	bacterial reverse mutation assay (e.g Ames test)	without		OECD Guideline 471 (Bacterial Reverse Mutation Assay)
Cumene hydroperoxide 80-15-9	negative	dermal		mouse	

Repeated dose toxicity

Hazardous components CAS-No.	Result	Route of application	Exposure time / Frequency of treatment	Species	Method
Cumene hydroperoxide 80-15-9		inhalation: aerosol	6 h/d5 d/w	rat	

SECTION 12: Ecological information

General ecological information:
Harmful to aquatic organisms.
May cause long-term adverse effects in the aquatic environment.
Do not empty into drains / surface water / ground water.

Toxicity

Hazardous components CAS-No.	Value type	Value	Acute Toxicity Study	Exposure time	Species	Method
2-Hydroxyethyl methacrylate 868-77-9	LC50	227 mg/l	Fish	96 h	Pimephales promelas	OECD Guideline 203 (Fish, Acute Toxicity Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	380 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
2-Hydroxyethyl methacrylate 868-77-9	EC50	345 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
	NOEC	160 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
2-Hydroxyethyl methacrylate 868-77-9	EC0	> 3.000 mg/l	Bacteria	16 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
2-Hydroxyethyl methacrylate 868-77-9	NOEC	24,1 mg/l	chronic Daphnia	21 d	Daphnia magna	OECD 211 (Daphnia magna, Reproduction Test)
Cumene hydroperoxide 80-15-9	LC50	3,9 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene hydroperoxide 80-15-9	EC50	18 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene hydroperoxide 80-15-9	ErC50	3,1 mg/l	Algae	72 h	Pseudokirchnerella subcapitata	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene hydroperoxide 80-15-9	EC10	70 mg/l	Bacteria	30 min		DIN 38412, part 27 (Bacterial oxygen consumption test)
Maleic acid 110-16-7	LC50	> 245 mg/l	Fish	48 h	Leuciscus idus	DIN 38412-15
Maleic acid 110-16-7	EC50	42,81 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene 98-82-8	LC50	4,8 mg/l	Fish	96 h	Oncorhynchus mykiss	OECD Guideline 203 (Fish, Acute Toxicity Test)
Cumene 98-82-8	EC50	4 mg/l	Daphnia	48 h	Daphnia magna	OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Cumene 98-82-8	EC50	2,6 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Cumene 98-82-8	EC10	211 mg/l	Bacteria	24 h		DIN 38412, part 8 (Pseudomonas Zellvermehrungshemm-Test)
Methacrylic acid 79-41-4	LC50	85 mg/l	Fish	96 h	Salmo gairdneri (new name: Oncorhynchus mykiss)	EPA OTS 797.1400 (Fish Acute Toxicity Test)
Methacrylic acid 79-41-4	EC50	> 130 mg/l	Daphnia	48 h	Daphnia magna	EPA OTS 797.1300 (Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids)
Methacrylic acid 79-41-4	NOEC	8,2 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella	OECD Guideline 201 (Alga, Growth

					subcapitata)	Inhibition Test)
	EC50	45 mg/l	Algae	72 h	Selenastrum capricornutum (new name: Pseudokirchnerella subcapitata)	OECD Guideline 201 (Alga, Growth Inhibition Test)
Methacrylic acid 79-41-4	EC 50	70.000 mg/l	Bacteria	30 min		DIN 38412, part 27 (Bacterial oxygen consumption test)

Persistence and degradability

Hazardous components CAS-No.	Result	Route of application	Degradability	Method
2-Hydroxyethyl methacrylate 868-77-9	readily biodegradable	aerobic	92 - 100 %	OECD Guideline 301 C (Ready Biodegradability: Modified MITI Test (I))
Cumene hydroperoxide 80-15-9		no data	0 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Maleic acid 110-16-7	readily biodegradable	aerobic	97,08 %	OECD Guideline 301 B (Ready Biodegradability: CO2 Evolution Test)
Cumene 98-82-8		aerobic	86 %	ISO 10708 (BODIS-Test)
Methacrylic acid 79-41-4	readily biodegradable	aerobic	86 %	OECD Guideline 301 D (Ready Biodegradability: Closed Bottle Test)

Bioaccumulative potential / Mobility in soil

Hazardous components CAS-No.	LogKow	Bioconcentration factor (BCF)	Exposure time	Species	Temperature	Method
Cumene hydroperoxide 80-15-9		9,1		calculation		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Cumene hydroperoxide 80-15-9	2,16					
Maleic acid 110-16-7	-1,3				20 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Acetic acid, 2-phenylhydrazide 114-83-0	0,74					
Cumene 98-82-8		35,5		Carassius auratus		OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)
Cumene 98-82-8	3,55				23 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)
Methacrylic acid 79-41-4	0,93				22 °C	OECD Guideline 107 (Partition Coefficient (n-octanol / water), Shake Flask Method)

Results of PBT and vPvB assessment

Hazardous components CAS-No.	PBT/vPvB
2-Hydroxyethyl methacrylate 868-77-9	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Maleic acid 110-16-7	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.
Methacrylic acid 79-41-4	Not fulfilling Persistent, Bioaccumulative and Toxic (PBT), very Persistent and very Bioaccumulative (vPvB) criteria.

Section 13. Disposal considerations

Waste disposal of product: Dispose of in accordance with local and national regulations.

Disposal for uncleaned package: Dispose of in accordance with local and national regulations.

Section 14. Transport information

General information:
Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR.

Section 15. Regulations - classification and identification

2-Hydroxyethyl methacrylate	OECD. Program to investigate the potential hazards of high production volume chemicals (HPV), including decisions on the need for further work.
Cumene hydroperoxide	OECD. Program to investigate the potential hazards of high production volume chemicals (HPV), including decisions on the need for further work.
Maleic acid	American Cleaning Institute (ACI) Cleaning Product Ingredient Inventory
Cumene	IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements India. List of Hazardous Chemicals (Manufacture, Storage and Import of Hazardous Chemical Rules, Schedule I (Part II). OECD. Program to investigate the potential hazards of high production volume chemicals (HPV), including decisions on the need for further work.
Methacrylic acid	IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements IBC Code. International Bulk Chemical Code, Chapter 17, Minimum Requirements OECD. Program to investigate the potential hazards of high production volume chemicals (HPV), including decisions on the need for further work.

SECTION 16: Other information

The labelling of the product is indicated in Section 2. The full text of all abbreviations indicated by codes in this safety data sheet are as follows:

R10 Flammable.
R20/21/22 Harmful by inhalation, in contact with skin and if swallowed.
R21/22 Harmful in contact with skin and if swallowed.
R22 Harmful if swallowed.
R23 Toxic by inhalation.
R23/24/25 Toxic by inhalation, in contact with skin and if swallowed.
R33 Danger of cumulative effects.
R34 Causes burns.
R35 Causes severe burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R36/38 Irritating to eyes and skin.
R37 Irritating to respiratory system.
R40 Limited evidence of a carcinogenic effect.
R43 May cause sensitisation by skin contact.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
R7 May cause fire.

Relevant changes in this safety data sheet are indicated by vertical lines at the left margin in the body of this document. Corresponding text is displayed in a different color on shadowed fields.

Disclaimer: This information is based on our current level of knowledge and relates to the product in the state in which it is delivered. It is intended to describe our products from the point of view of safety requirements and is not intended to guarantee any particular properties.