

1. IDENTIFICATION

Trade Name: Taglus Model Resin

Intended Use: 3D printing of Crown and bridge model, Orthodontic model, Clear aligner model
Diagnostic model, Implant model, Surgical guides, Castable, Flexible, Flexible splint.

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J P Road,
Andheri West,
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Local Contact Details:

Local Emergency Phone No.:

2. HAZARDS IDENTIFICATION

Classification to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Skin Sens.	1	Skin sensitization
Aquatic Chronic	4	Hazardous to the aquatic environment – chronic

Label elements

GHS label elements

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

Hazard Pictograms



GHS07 GHS08

Signal word: Warning

Hazard statements:

H317	May cause an allergic skin reaction
H413	May cause long lasting harmful effects to the aquatic life.

Precautionary statements (Prevention):

P280	Wear protective gloves
P261	avoid breathing dust/fumes/gas/mist/vapour/spray
P273	avoid release to the environment
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statements (Response):

P303+P352 IF ON SKIN (or hair): wash with plenty of soap and water
 P333+P311 If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.
 P362+P364 Take of contaminated clothing and wash before reuse.

Precautionary statements (Disposal):

P501 Dispose of contents/container to hazardous or special waste collection point.

Classification system:

NFPA ratings (scale 0 - 4)



HMIS-ratings (scale 0 - 4)



Other hazards

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Monomer based on methacrylic ester with low levels of stabilizer, pigments and accelerator.

· Dangerous components:		
Proprietary	Aliphatic Urethane Methacrylate	30 – 50%
Proprietary	Ethoxylated pentaerythritol tetraacrylate	30 – 50%
Proprietary	2-acrylic acid, 2-(((butylamino) carbonyl)oxy)ethyl ester	2.5-25%
75980-60-8	Diphenyl(2,4,6-trimethylbenzoyl)phosphinoxide	2.5%
	pigment paste	2.5%

For full text of H and P phrases see section 2.

4. FIRST AID MEASURES

- Inhalation: Remove patient from exposure and to fresh air. Obtain immediate medical attention.
- Skin Contact: Remove contaminated clothing. Wash skin with soap and lukewarm water. If symptoms (irritation or blistering) occur obtain medical attention.
- Eye Contact: Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
- Ingestion: Do not induce vomiting. If ingested, drink plenty of water/milk immediately. If person is vomiting, continue to offer water of milk. Never give anything by mouth to an unconscious person. Obtain medical attention.

Further Medical Treatment

Symptomatic treatment and supportive therapy as indicated.

5. FIRE-FIGHTING MEASURES

May polymerize on heating. Sealed container may rupture explosively if hot.

Suitable extinguishing media: Foam, dry chemicals and CO₂.

Unsuitable extinguishing media: Direct jet of water.

Special exposure hazards: High temperatures may cause spontaneous polymerizing reaction generating heat/pressure. Closed containers may rupture or explode during a runaway polymerization. Use a water spray or fog to reduce or direct vapors. Water may not be efficient in actually extinguishing a fire involving this product

Fire-Fighting Protective Equipment: A self-contained breathing apparatus and full protective clothing should be worn in fire conditions.

6. ACCIDENTAL RELEASE MEASURES

Eliminate sources of ignition. Ensure suitable personal protection (including respiratory protection) during removal or spillage. Prevent entry into drains. Adsorb spillages onto sand, earth or any other suitable adsorbent material. DO NOT adsorb onto sawdust or other combustible materials. Transfer to a container for disposal or recovery. Spillages or uncontrolled discharges into watercourses must be alerted to appropriate regulatory body. Do not discharge into drains/surface waters/groundwater. Maximize ventilation after accidental release.

7. HANDLING AND STORAGE

7.1. HANDLING

Avoid contact with skin and eyes. Avoid inhalation of high concentrations of vapors. Use only in well ventilated areas. Material must be kept from sources of ignition. Take precautionary measures against static discharges. Keep away from food, drinks and animal feed.

7.2. STORAGE

Keep in dry, cool, well ventilated place, separate from oxidising agents. Keep away from sources of ignition – No smoking. Keep away from heat and direct (sun) light. Container may be filled for only 80%. Keep the container closed to avoid evaporation of the product.

Storage temperature: Preferably not exceeding 25°C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. EXPOSURE LIMIT VALUES

Occupational Exposure limits

SUBSTANCE	TWA 8 hr (mg/m ³)	TWA 8hr (ppm)
Methacrylic oligomers	Not listed	Not listed
Phosphine oxides	1.0 (Skin)	No vapor
Colorants and pigments	Not listed	Not listed

8.2. EXPOSURE CONTROLS

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded.

The following information is given as general guidance.

Respirators: Wear suitable respiratory equipment if exposed to level above the occupational exposure limit is likely. A suitable mask with filter type A may be appropriate.

Eye Protection: Safety spectacles/goggles

Gloves: Wear suitable gloves. The most appropriate glove depends on consideration of a number of factors including the physical strength of the glove, the degree of manual dexterity required, the amount of permeation through the glove material and the duration of wear. There are a wide variety of elastomeric and laminate gloves available. Common elastomeric glove material include latex (natural rubber), neoprene (polyisoprene), nitrile rubber (ABS rubber), butyl rubber, polyvinyl alcohol (PVA), polyvinyl chloride (PVC) and Fluor elastomers. Laminate gloves are made from heat sealed sheets of PVA between layers of polyethylene. In permeations tests PVA/Polyethylene laminate and supported PVA gloves performed best (note that PVA can be rendered ineffective by contact with water if the laminate layer is breached). Butyl and nitrile rubber gloves offer short-term protection. Latex surgical gloves offer little protection. Gloves should be stored correctly and changed regularly, especially if excessive exposure has occurred.

Other: Keep working clothes separately. Take off contaminated clothing immediately. Keep away from food, drinks and animal feed. Wash hands thoroughly after handling

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Opaque viscous liquid
Odour:	Ester like
pH:	Not applicable
Boiling point:	>100°C
Melting point:	Not applicable
Flash point:	>93°C
Flammable limits (lower) (%v/v):	Not applicable
Auto ignition temperature:	430°C
Explosive properties:	Not applicable
Oxidizing properties:	Not applicable
Vapor pressure:	-
Relative density:	1.11-1.15 (water = 1)
Solubility:	Good solubility with most organic solvents
Water solubility:	Slightly soluble
Viscosity:	800-1500 mPa•s

10. ABILITY AND REACTIVITY

10.1. CONDITIONS TO AVOID

The product is stabilized. However, polymerization may occur when the expiry date and/or storage temperature is considerable exceeded. Keep out of direct sunlight and ultra violet radiation.

10.2. MATERIALS TO AVOID

When heated above the flash point, flammable vapours are emitted which can mix with air and can burn or be explosive. Vapours are heavier than air and may travel to the source of ignition and flash back. Heat can cause polymerization with rapid release of energy which may rupture the container explosively.

Incompatible materials: strong oxidizers, strong reducers, inert gases and oxygen scavengers.

10.3. HAZARDOUS DECOMPOSITION PRODUCTS

Oxides of carbon when burned.

11. TOXICOLOGICAL INFORMATION

Acute toxicity: >2000 mg/kg
LD50 acute oral rat:
LD50 acute dermal rat: >2000 mg/kg

Inhalation:

Irritating to respiratory system. High atmospheric concentrations may lead to irritation of the respiratory tract, dizziness, headache and anesthetic effects.

Skin contact:

May cause sensitization by skin contact. Irritating to skin, Repeated and/or prolonged contact may cause dermatitis.

Eye contact:

High vapor concentration may cause irritation.

Ingestion:

Low oral toxicity, but ingestion may cause irritation of the gastrointestinal tract.

12. ECOLOGICAL INFORMATION

12.1. ENVIRONMENTAL FATE AND DISTRIBUTION

Liquid with low volatility. The product is slightly soluble in water. The product as low potential for bio accumulation in small amounts.

12.2. ENVIRONMENTAL EXPOSURE CONTROLS

The product should not be allowed to drain in sewers.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with local, state or national legislation. Incinerate under approved controlled conditions, using incinerators for the disposal for organic chemicals. Decontaminate empty drums before recycling.

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: Marine pollutant:	No
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

No hazardous material as defined by the prescriptions. No specific regulation for transport necessary.

15. REGULATORY INFORMATION

EC Classification:	IRRITANT, SENSITIZING AND HARMFUL
Hazard Symbol:	Xi: Irritating
Health Phrases:	Causes skin irritation H317 May cause an allergic skin reaction H319 Cause serious eye irritation H335 May cause respiratory irritation H413 May cause long lasting harmful effect to aquatic life

16. OTHER INFORMATION

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of publication. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

· Abbreviations and acronyms:

ADR: Accord European sur le transport des marchandises dangerousness 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

ACGIH: American Conference of Governmental Industrial Hygienists 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)

PBT: Persistent, bioaccumulate and Toxic vPvB: very Persistent and very Bioaccumulate NIOSH: National Institute for Occupational Safety OSHA: Occupational Safety & Health

TLV: Threshold Limit Value PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A Skin Sens. 1: Skin sensitization – Category 1

Repr. 2: Reproductive toxicity – Category 2

This is the end of MSDS