

## Safety data sheet

### SECTION 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Code: UP-1705-PS  
Product name: RARESTER UP-1705-PS

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use: Unsaturated Polyester Resin / Industrial Coatings

#### 1.3. Details of the supplier of the safety data sheet

Name: RAR Resin & Chemical Industries JLT  
Full address: 11th Floor - One Lake Plaza, Jumeirah Lakes Towers  
District and Country: 971 Dubai UAE  
Tel.: 00971 4 4356517  
Fax: 00971 4 4356518

e-mail address of the competent person responsible for the Safety Data Sheet: technical@rarresin.com , info@rarresin.com

Product distribution by: Supplier/ Exporter : RAR Resin & Chemical Industries JLT

#### 1.4. Emergency telephone number

For urgent inquiries refer to: 0097144356517, 00971555594056

### SECTION 2. Hazards identification.

#### 2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in Directives 67/548/EEC and 1999/45/EC (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Danger Symbols: Xn

R phrases: 10-20-36/38

#### 2.2. Label elements.

Hazard labelling pursuant to Directives 67/548/EEC and 1999/45/EC and subsequent amendments and supplements.



**R10** FLAMMABLE.  
**R20** HARMFUL BY INHALATION.  
**R36/38** IRRITATING TO EYES AND SKIN.

**S 9** KEEP CONTAINER IN A WELL-VENTILATED PLACE.  
**S25** AVOID CONTACT WITH EYES.  
**S26** IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

**S37** WEAR SUITABLE GLOVES.  
**S43** IN CASE OF FIRE, USE USE FOAM, DRY CHEMICAL OR CARBON DIOXIDE(CO2) . DO NOT USE STRAIGHT STREAMS OF WATER.

**SECTION 2. Hazards identification. ... / >>**

**Contains:** STYRENE

**2.3. Other hazards.**

Information not available.

**SECTION 3. Composition/information on ingredients.**
**3.1. Substances.**

Information not relevant.

**3.2. Mixtures.**

**Contains:**

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
<b>STYRENE</b>			
CAS. 100-42-5	30 - 32.5	R10, Xn R20, Xi R36/38, Note D	Flam. Liq. 3 H226, Acute Tox. 4 H332, Eye Irrit. 2 H319, Skin Irrit. 2 H315, Note D
EC. 202-851-5			
INDEX. 601-026-00-0			

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

**SECTION 4. First aid measures.**
**4.1. Description of first aid measures.**

**EYES:** Remove contact lenses, if present Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice

**SKIN:** Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

**INHALATION:** Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

**INGESTION:** Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

**4.2. Most important symptoms and effects, both acute and delayed.**

For symptoms and effects caused by the contained substances, see chap. 11.

**4.3. Indication of any immediate medical attention and special treatment needed.**

Information not available.

**SECTION 5. Firefighting measures.**
**5.1. Extinguishing media.**

SUITABLE EXTINGUISHING EQUIPMENT

Extinguishing substances are: carbon dioxide, foam, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapours and protect those trying to stem the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

**5.2. Special hazards arising from the substance or mixture.**

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

**5.3. Advice for firefighters.**

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health.

Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

**SECTION 5. Firefighting measures. ... / >>**
**SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS**

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures.**
**6.1. Personal precautions, protective equipment and emergency procedures.**
**FOR LIQUID PRODUCTS:**

Block the leakage if there is no hazard.

**FOR SOLID PRODUCTS:**

If there are no contraindications, spray powder with water to prevent the formation of dust. Avoid breathing vapours/mists/gases.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

**6.2. Environmental precautions.**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

**6.3. Methods and material for containment and cleaning up.**

**FOR LIQUID PRODUCTS:** Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

**FOR SOLID PRODUCTS:** Use spark-proof mechanical equipment to collect the leaked product and place it in containers for recovery or disposal.

If there are no contraindications, use jets of water to eliminate product residues.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections.**

Any information on personal protection and disposal is given in sections 8 and 13.

**SECTION 7. Handling and storage.**
**7.1. Precautions for safe handling.**

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat. Avoid leakage of the product into the environment.

**7.2. Conditions for safe storage, including any incompatibilities.**

Store only in the original container. Store in a well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

**7.3. Specific end use(s).**

Information not available.

**SECTION 8. Exposure controls/personal protection.**
**8.1. Control parameters.**
**Regulatory References:**

United Kingdom

Éire

OEL EU

TLV-ACGIH

EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Code of Practice Chemical Agent Regulations 2011.

Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.

ACGIH 2012

**SECTION 8. Exposure controls/personal protection. ... / >>**
**STYRENE**
**Threshold Limit Value.**

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
WEL	UK	430	100	1080	250
OEL	IRL	85	20	170	40
TLV-ACGIH		85	20	170	40

**Legend:**

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

TLV of solvent mixture: 85 mg/m3.

**8.2. Exposure controls.**

As the use of adequate technical equipment must always take priority over personal protection equipment, make sure that the workplace is well aired through effective local aspiration. Personal protection equipment must comply with the rules in force indicated below.

**HAND PROTECTION**

Protect hands with category II (ref. Directive 89/686/EEC and standard EN 374) work gloves, such as those in PVC, neoprene, nitril or equivalent. The following should be considered when choosing work glove material: degradation, breakage times and permeation. Work glove resistance to preparations should be checked before use, as it can be unpredictable. Gloves' limit depends on the duration of exposure.

**EYE PROTECTION**

Wear protective airtight goggles (ref. standard EN 166).

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (ref. Directive 89/686/CEE and standard EN 344). Wash body with soap and water after removing overalls.

**RESPIRATORY PROTECTION**

If the threshold value (if available) for one or more of the substances present in the preparation for daily exposure in the workplace or to a fraction established by the company's prevention and protection service is exceeded, wear a mask with an A or universal filter, the class (1, 2 or 3) of which must be chosen according to the limit concentration of use (ref. standard EN 141).

The use of respiratory tract protection equipment, such as masks like that indicated above, is necessary to reduce worker exposure in the absence of technical measures. The protection provided by masks is in any case limited.

If the substance in question is odourless or its olfactory threshold is higher than the relative exposure limit and in the event of an emergency, or when exposure levels are unknown or the concentration of oxygen in the workplace is less than 17% volume, wear self-contained, open-circuit compressed air breathing apparatus (ref. standard EN 137) or fresh air hose breathing apparatus for use with full face mask, half mask or mouthpiece (ref. standard EN 138).

**ENVIRONMENTAL EXPOSURE CONTROLS.**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

**SECTION 9. Physical and chemical properties.**
**9.1. Information on basic physical and chemical properties.**

Appearance	viscous liquid
Colour	yellow
Odour	solvent
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	> 145 °C.
Boiling range.	Not available.
Flash point.	> 32 °C.
Evaporation Rate	12.4
Flammability of solids and gases	Not available.
Lower inflammability limit.	1.1 % (V/V).
Upper inflammability limit.	6.1 % (V/V).
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	5 mmHg
Vapour density	<1 at 101 kPa
Relative density.	1.115 Kg/l
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.

**UP-1705-PS - RARESTER UP-1705-PS**
**SECTION 9. Physical and chemical properties. ... / >>**

Auto-ignition temperature.	>	490	°C.
Decomposition temperature.		Not available.	
Viscosity		U - W (Gardner Tube@25°C)	
Explosive properties		Not available.	
Oxidising properties		Not available.	

**9.2. Other information.**

Solid content.		70.00 %	
VOC (Directive 1999/13/EC) :		30.00 %	- 334.44 g/litre.
VOC (volatile carbon) :		27.65 %	- 308.27 g/litre.

**SECTION 10. Stability and reactivity.**
**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

STYRENE: polymerises readily above 65°C with risk of fire and explosion; added with an inhibitor that requires a small amount of dissolved oxygen at temperatures <25°C.

**10.2. Chemical stability.**

The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions.**

The vapours may also form explosive mixtures with the air.

STYRENE: can react dangerously with peroxides and strong acids. May polymerise on contact with: aluminium trichloride, azobisisobutyronitrile, dibenzoyl peroxide, sodium. Risk of explosion on contact with: butyllithium, chlorosulphuric acid, diterbutyl peroxide, oxidising agents, oxygen.

**10.4. Conditions to avoid.**

Avoid overheating. Avoid bunching of electrostatic charges. Avoid all sources of ignition.

**10.5. Incompatible materials.**

STYRENE: avoid oxidising agents, copper and strong acids; it dissolves various types of plastic materials, but not polychloroprene and polyvinyl alcohol.

**10.6. Hazardous decomposition products.**

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

**SECTION 11. Toxicological information.**
**11.1. Information on toxicological effects.**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Acute effects: inhalation of this product is harmful. This product may irritate mucosae, the upper respiratory tract, eyes and skin. Exposure symptoms may include: stinging and irritated eyes, mouth, nose, throat; cough, respiratory disorders, dizziness, headache, nausea and sickness.

In the most serious cases, inhalation of this product may cause larynx and bronchial tube edema and irritation, chemical pneumonia and pulmonary edema. Ingestion of even small amounts of product may cause health problems (stomach pain, nausea, sickness, diarrhoea).

STYRENE: Acute toxicity following inhalation at 1000 ppm involves the central nervous system with headache and dizziness, lack of coordination; irritation of the mucous membranes of the eyes and respiratory tract occurs at 500 ppm concentrations. Chronic exposure produces depression of the Central and peripheral nervous system with loss of memory, headache and somnolence starting at 20 ppm; digestive disorders with nausea and loss of appetite; irritation of the respiratory tract with chronic bronchitis and dermatosis.

STYRENE	
LD50 (Oral).	5000 mg/kg Rat
LC50 (Inhalation).	11.8 mg/l/4h Rat

**SECTION 11. Toxicological information. ... / >>****SECTION 12. Ecological information.**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or sewers or contaminate soil or vegetation.

**12.1. Toxicity.**

Information not available.

**12.2. Persistence and degradability.**

STYRENE: easily biodegradable.

**12.3. Bioaccumulative potential.**

STYRENE: no appreciable bioaccumulation potential (log Ko/w 1-3).

**12.4. Mobility in soil.**

STYRENE: slightly mobile in soil.

**12.5. Results of PBT and vPvB assessment.**

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

**12.6. Other adverse effects.**

Information not available.

**SECTION 13. Disposal considerations.****13.1. Waste treatment methods.**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Waste transportation may be subject to ADR restrictions.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

**SECTION 14. Transport information.**

These goods must be transported by vehicles authorized to the carriage of dangerous goods according to the provisions set out in the current edition of the Code of International Carriage of Dangerous Goods by Road (ADR) and in all the applicable national regulations.

These goods must be packed in their original packagings or in packagings made of materials resistant to their content and not reacting dangerously with it. People loading and unloading dangerous goods must be trained on all the risks deriving from these substances and on all actions that must be taken in case of emergency situations.

**SECTION 14. Transport information. ... / >>**

**Road and rail transport:**

ADR/RID Class: 3 UN: 1866  
Packing Group: III  
Label: 3  
Nr. Kemler: 30  
Limited Quantity: 5 L  
Tunnel restriction code: (D/E)  
Proper Shipping Name: RESIN SOLUTION  
Special Provision: 640E



**Carriage by sea (shipping):**

IMO Class: 3 UN: 1866  
Packing Group: III  
Label: 3  
EMS: F-E , S-E  
Marine Pollutant: NO  
Proper Shipping Name: RESIN SOLUTION



**Transport by air:**

IATA: 3 UN: 1866  
Packing Group: III  
Label: 3  
Cargo:  
Packaging instructions: 366 Maximum quantity: 220 L  
Pass.:  
Packaging instructions: 355 Maximum quantity: 60 L  
Special Instructions: A3  
Proper Shipping Name: RESIN SOLUTION



**SECTION 15. Regulatory information.**

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

Seveso category. 6

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Product.  
Point. 3 - 40

Substances in Candidate List (Art. 59 REACH).

None.

Substances subject to authorisation (Annex XIV REACH).

None.

Substances subject to exportation reporting pursuant to (EC) Reg. 689/2008:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment.**

No chemical safety assessment has been processed for the mixture and the substances it contains.

**SECTION 15. Regulatory information. ... / >>**
**SECTION 16. Other information.**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Flam. Liq. 3</b>	Flammable liquid, category 3
<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>H226</b>	Flammable liquid and vapour.
<b>H332</b>	Harmful if inhaled.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

<b>R10</b>	FLAMMABLE.
<b>R20</b>	HARMFUL BY INHALATION.
<b>R36/38</b>	IRRITATING TO EYES AND SKIN.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as Reach Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation.

**GENERAL BIBLIOGRAPHY**

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. The Merck Index. - 10th Edition
9. Handling Chemical Safety
10. Niosh - Registry of Toxic Effects of Chemical Substances
11. INRS - Fiche Toxicologique (toxicological sheet)
12. Patty - Industrial Hygiene and Toxicology



**SECTION 16. Other information. ... / >>**

- 13. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- 14. ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

Changes to previous review:

The following sections were modified:

09.