

# MATERIAL SAFETY DATA SHEET

(According to Regulation EC No 1907/2011 – REACH)

## RUBATAN 184

| 1. PRODUCT IDENTIFICATION  |  |                                       |
|--|--|---------------------------------------|
| <b>Company:</b> GENERAL QUIMICA S.A.<br><br><b>Address:</b><br>01213 COMUNION-LANTARON<br>ALAVA<br><br><b>Tel. #</b> 945 332 145<br><b>Fax #</b> 945 332 888<br><b>e-mail address:</b><br>SDSgequisa@repsolypf.com | <b>Commercial name:</b> RUBATAN 184<br><b>Chemical name:</b> Poly (1,2-dihydro-2,2,4-trimethylquinoline).    |                                       |
|  | <b>Synonyms:</b> Quinoline, 1,2-dihidro-2,2,4-trimethyl homopolymer, trimethyldihydroquinoline polymer, TMQ. |                                       |
|  | <b>Uses:</b> Accelerator for rubber vulcanization.   |                                       |
| <b>Instituto Nacional de Toxicología:</b><br><b>Emergency telephone:</b> 91 562 04 20  | <b>Molecular formula:</b> $(C_{12}H_{15}N)_n$  | <b>CAS #</b> 26780-96-1               |
|  | <b>EC (EINECS) #</b> 500-051-3   | <b>Annex I (Dir. 67/548/CEE) #</b> NP |

| 2. HAZARD IDENTIFICATION   |  |
|--|--|
| PHYSICAL / CHEMICAL  | TOXICITY / SYMPTOMS  |
| When heated, it emits toxic fumes of NO <sub>x</sub> .<br><br>The product may form an explosive dust cloud. (Dust explosion class St2) | <b>Inhalation:</b> The dust product may be irritant to the respiratory tract.<br><br><b>Ingestion:</b> This route of exposure is easy to avoid and not frequent, but if occurs, it may be dangerous.<br><br><b>Contact eyes and skin:</b> The product is not irritant to eyes and skin. In contact with the skin, it may be dangerous by absorption.<br><br><b>General toxic effects:</b> The product may be irritant to the respiratory tract. In contact with skin, it may be dangerous by absorption. |

| 3. COMPOSITION   |         |                |        |
|--|---------|----------------|--------|
| <b>General composition:</b> Poly (1,2-dihydro-2,2,4-trimethylquinoline). |         |                |        |
| Dangerous components:  | Range % | Classification |        |
|  |         | R              | S      |
| Poly (1,2-dihydro-2, 2,4-trimethylquinoline).                            | 100     | R52/53         | S29-61 |

#### 4. FIRST AID

**Inhalation:** Move victim to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.

**Ingestion:** Induce vomiting. Call for medical urgently.

**Contact skin/eyes:** Remove contaminated clothing and wash with water and soap affected skin area. Hold eyelids open and flush with large amounts of water for 15 min. Obtain medical attention

**General measures:** Call for medical attention.

#### 5. FIRE-FIGHTING MEASURES

**Extinguishing agents:** Foams, dry chemicals, and water spray.

**Non suitable extinguishing agents:** CO<sub>2</sub> may be ineffective.

**Combustion products:** CO<sub>2</sub>, H<sub>2</sub>O, CO (in defect of air) and NO<sub>x</sub>.

**Special measures:** Move containers from fire area if possible without risk. Apply cooling water to sides of containers exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles to avoid risks. If the fire is impossible to control, withdraw from area and let fire burn. Consult and follow existing emergency standard procedures.

**Special hazards:** The product may form an explosive dust cloud. Dust product is very sensitive to burn.

**Protective equipment:** Heat-resistant suit and gloves. Self-contained breathing apparatus.

#### 6. ACCIDENTAL RELEASE MEASURES

**Precautions for the environment:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.  
Avoid dispersion of the product and the possibility to reach sewer and drains.

**Personal precautions:** Avoid contact or inhalation with the product. Keep unnecessary people away. Ventilate closed spaces before entering.

**Cleanup methods:** Solid spills are shovelled into closed plastic bag or containers for later recovery or disposal.

**Personal protection:** In presence of vapours from product full-face protective mask. Wear goggles, and rubber over clothing, including gloves.

## 7. HANDLING AND STORAGE

### Handling:

*General precautions:* Do not smoke, drink, or eat during handling. Wash hands using liquid detergent. Wear appropriate protective clothing to avoid direct contact or inhalation of the product. The product may form an explosive dust cloud. (Dust explosion class St2). Eliminate all sources of ignition from areas where the dust product is handled or used; no sparks, or flames in hazard area. Pneumatic transport equipment should be properly earthed (static charge accumulation by friction).

*Specific conditions:* Good local exhaust ventilation. Protective mask in presence of hot product.

*Uses:* Accelerator for rubber vulcanization.

### Storage:

*Temperature and decomposition products:* Avoid temperatures higher than 40°C, humidity and sunlight.

*Dangerous reactions:* NP

*Storage conditions:* Storage at room temperature and protect it from sunlight, in cool and well-ventilated places, in containers properly labelled and sealed. Protect containers from fire. Eliminate all possible sources of ignition. Polymer has a marked tendency to build up static charge when transferred by pipelines, by pneumatic transport, therefore should be properly earthed. Never weld in storage areas without properly cautions.

*Incompatible materials:* Strong oxidizing agents such as hydrogen peroxide, permanganates and perchlorates.

## 8. PERSONAL PROTECTION/EXPOSURE CONTROLS

### Personal protection:

*Respiratory protection:* In presence of high dust concentrations, full-face protective mask. *Eye protection:* Safety goggles or face-shield to avoid the product.

*Skin protection:* Gloves and appropriate clothing to avoid skin contact. *Other protective equipment:* Eyes washers and showers in working area.

**General precautions:** Local exhaust ventilation. Do not smoke and avoid open flames or other ignition sources. Avoid prolonged contact or/and inhalation.

**Specific hygiene measures:** Good work practices and the adoption of good personal hygiene measures reduce unnecessary exposures. Washing/Showering facilities with a non-solvent based skin cleaner, hot water and soap must be provided and used. Overalls should be changed frequently and dry-cleaned. Grossly contaminated clothing should be changed immediately. The condition of gloves should be checked before use for signs of internal contamination. Use skin reconditioning cream after work.

**Exposure controls:** Particulates not otherwise classified (PNOC):

Inhalable particulate : 10 mg/m<sup>3</sup>; containing no asbestos and <1% crystalline silica.

Respirable particulate : 3 mg/m<sup>3</sup>; containing no asbestos and <1% crystalline silica.

| <b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>   |  |
|--|--|
| <b>Appearance:</b> Pearls.   | <b>pH:</b>                                       |
| <b>Colour:</b> amber   | <b>Odour:</b>                                    |
| <b>Boiling range:</b> NP   | <b>Melting point:</b> 75 °C min.                 |
| <b>Flash point:</b>  | <b>Autoignition temperature:</b>                 |
| <b>Explosive properties:</b><br>Minimum explosive concentration: 0.03 mg/cm <sup>3</sup> . Dust explosion class St2. | <b>Oxidizing properties:</b> NP                  |
| <b>Vapour pressure:</b> NP   | <b>Density:</b> 1.095 g/cm <sup>3</sup> at 20 °C |
| <b>Surface tension:</b> NP   | <b>Partition coefficient (n-octanol/water):</b>  |
| <b>Water solubility:</b> Insoluble   | <b>Solubility:</b>                               |
| <b>Other data:</b>   |  |

| <b>10. STABILITY AND REACTIVITY</b>   |   |
|---|---|
| <b>Stability:</b> Stable at room temperature.   | <b>Conditions to avoid:</b> Humidity, high temperatures, flames and sunlight. |
| <b>Materials to avoid:</b> Strong oxidizing agents such as hydrogen peroxide, permanganates and perchlorates.   |   |
| <b>Hazardous decomposition/combustion products:</b> Decomposition product: Aromatic and aliphatic hydrocarbons. Combustion products: CO (in defect of air), CO <sub>2</sub> , and NO <sub>x</sub> . |   |
| <b>Polymerization risk:</b> NP  | <b>Conditions to avoid:</b> NP  |

| <b>11. TOXICOLOGICAL INFORMATION</b>  |  |
|---|--|
| <b>Routes of exposure:</b> Contact with skin and eyes. Inhalation of the product. Ingestion is not frequent but, if it occurs, it may be dangerous.   |  |
| <b>Acute and chronic effects:</b> The dust product may be irritant to the respiratory tract. In contact with skin, it may be dangerous by absorption. |  |
| <b>Carcinogenicity:</b> NP  |  |
| <b>Reproductive toxicity:</b> NP  |  |
| <b>Medical conditions which increase hazard to exposure:</b> NP   |  |

## 12. ECOLOGICAL INFORMATION

### Pollutant potential:

*Persistence and degradability:* There are no data concerning the persistence and degradability of the product in natural systems.

*Mobility/bioaccumulative potential:* No data on the bioaccumulation for the product are found in literature.

**Ecotoxicological effects:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Water hazard class WGK 2 (Wassergefährdungsklasse) (Germany)

## 13. DISPOSAL CONSIDERATIONS

**Disposal methods (surplus):** Recycling and recovery of the material when possible.

**Waste:** Solids and liquids from industrial processes.

*Disposal:* Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

*Handling:* Labelled and sealed containers.

*Community provisions:* Companies which recover, dispose, store, transport or handle waste should comply with European provisions on waste or other local, national or community provisions.

## 14. TRANSPORT INFORMATION

**Special precautions:** Stable at room temperature and during transport. To avoid spilling, transport in secure containers. Use properly labelled and sealed containers.

### Additional information:

UN number: NP

Hazard identification number: NP

ADR / RID: NP

IATA-DGR: NP

IMDG: NP

## 15. REGULATORY INFORMATION

### CLASSIFICATION

R52/53

### LABELLING

**Symbols:** NP

### Phrases R:

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Phrases S:

S22: Do not breathe dust.

S29: Do not empty into drains.

S36: Wear suitable protective clothing.

S61: Avoid release to the environment. Refer to special instructions / safety data sheets

**Other regulations:** This product is listed in the Chemical Inventory TSCA (USA).

Water hazard class WGK 2 (Wassergefährdungsklasse) (Germany)

## 16. OTHER INFORMATION

### Data bases consulted:

EINECS: European Inventory of Existing Commercial Substances.  
TSCA: Toxic Substances Control Act, US Environmental Protection Agency  
HSDB: US National Library of Medicine.  
RTECS: US Dept. of Health & Human Services

### R Phrases shown in the document:

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

### Legislation consulted:

Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH).  
Dir. 67/548/EEC about classification, labelling and packaging of dangerous substances (including amendments and adaptations in force).  
Dir. 1999/45/EC about classification, labelling and packaging of dangerous preparations (including amendments and adaptations in force).  
Dir. 91/689/EEC dangerous waste; Dir. 91/156/EEC waste management.  
Royal Decree 363/95: Regulation about notification of new substances and classification, packaging and labelling of dangerous substances.  
Royal Decree 255/2003: Regulation about classification, packaging and labelling of dangerous preparations.  
European Agreement concerning the international carriage of dangerous goods by road (ADR).  
Regulation on the international transport of dangerous goods on the railway. (RID)  
International maritime code of dangerous goods. (IMDG)  
International Air Transport Association (IATA) regulation pertaining to air shipment.

### GLOSSARY:

CAS: Chemical Abstract Service  
IARC: International Agency for Research on Cancer  
ACGIH: American Conference of Governmental Industrial Hygienists.  
TLV: Threshold Limit Value  
TWA: Time Weighted Average  
STEL: Short-term Exposure Level  
REL: Recommendable Exposure Limit  
PEL: Permissible Exposure Limit

INSHT: Instituto Nal. de Seguridad e Higiene en el Trabajo  
VLA-ED: Valor Límite Ambiental – Exposición Diaria  
VLA-EC: Valor Límite Ambiental – Exposición Corta  
LD<sub>50</sub>: Lethal Dose Medium  
LC<sub>50</sub>: Lethal Concentration Medium  
EC<sub>50</sub>: Effective Concentration Medium  
IC<sub>50</sub>: Inhibitory Concentration Medium  
BOD: Biological Oxygen Demand.  
NP: Not Pertinent  
| : Changes from the last revision

The information given in this document has been compiled based on the best existing information sources, latest available knowledge and according to the current requirements on classification, packaging and labelling of hazardous substances. It does not imply the information is exhaustive or accurate in all cases. It is the user's responsibility to determine the validity of the information contained in this Material Safety Data Sheet to apply depending on the case.