

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 1 from 18  
Print date: 11-4-2024

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

### 1.1 Product identification:

Product name: Gravicol 2397 TC  
Chemical name: Polyester adhesive  
UFI code: MMP1-KOSU-M009-JUEM

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

Identified use: Polyester adhesive for composites. For use in contact with foodstuffs, please contact us.

### **Uses advised against:**

Consumer use: Not suitable for DIY.

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

Responsible distributor : ASSYST bvba / A.S.O.W. bvba  
Hellegatstraat 13a  
2590 Berlaar  
Belgium  
Tel: +32 495 50 61 14 / +32 496 83 70 27  
Website: [www.assyst.org](http://www.assyst.org) / [www.artsuppliesonweb.com](http://www.artsuppliesonweb.com)  
Email: [ao@assyst.org](mailto:ao@assyst.org) / [vera.opsommer@assyst.org](mailto:vera.opsommer@assyst.org)

### 1.4 Emergency phone number:

For Belgium:

Call the **Poison Control Centre (070 245 245 - free)**, if not available: **02 264 96 30** (normal rate) or your doctor. In life-threatening situations, always call the European emergency number **112**.

NHS 24 Direct

For help from a GP, visit your GP surgery's website, use an online service to contact your GP, or call the surgery. **For urgent medical help**, use the NHS 111 online service, or **call 111** if you are unable to get help online. **For life-threatening emergencies, call 999** for an ambulance. There is more information about getting medical help on the NHS website.

## **SECTION 2: Hazard identification**

### 2.1 Classification of the substance or mixture:

#### **Classification according to directive (EC) No 1272/2008 and its amendments.**

Skin corrosion/irritation Category 2 - (H315)  
Serious eye damage/eye irritation Category 2 - (H319)  
Skin sensitisation Category 1 - (H317)  
Reproductive toxicity Category 2 - (H361d)  
Specific target organ systemic toxicity (single exposure) Category 3 - (H335)  
Specific target organ toxicity - repeated exposure Category 1 - (H372)  
For the full text of H phrases referred to in this section, see section 16.

### 2.2 Labelling elements:

#### **Labelling according to regulation (EC) No 1272/2008 [CLP/GHS]:**



**Hazard pictograms:**

**Signal word**

Danger.

**Hazardous ingredients to be declared on the label:**

- ✓ Cobalt octoate
- ✓ Styrene

**Hazard statements:**

H315 - Causes skin irritation

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 2 from 18  
Print date: 11-4-2024

H317 - May cause allergic skin reaction  
H319 - Causes severe eye irritation  
H335 - May cause respiratory tract irritation  
H361d - Suspected of damaging the unborn child  
H372 - Causes damage to organs through prolonged or repeated exposure by inhalation

## Precautions

P260 - Do not breathe vapour  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
P304 + P340 - AFTER INHALATION: Remove the person to fresh air and ensure that they can breathe easily  
P305 + P351 + P338 - IF ON CONTACT WITH EYES: Rinse gently with water for several minutes; remove contact lenses, if possible; continue rinsing  
P403 + P233 - Keep in a well-ventilated place. Keep in tightly closed container

## 2.3 Other hazards:

PBT/vPvB see section 12.5.

The product does not contain any substances with endocrine-disrupting properties at a concentration  $\geq 0.1\%$ .

## SECTION 3: Composition and information on ingredients

### 3.2 Mixtures:

Chemical Name	CAS No. EC No. Index no. REACH Registration number	Classification (Regulation (EC) No 1272/008)	Concentration (%)
Styrene	100-42-5 202-851-5 601-026-00-0 01-2119457861-32	Flam. Liq. 3 (H226) Repr. 2 (H361d) Acute Tox. 4 (H332) STOT RE 1 (H372) Asp. Tox. 1 (H304) Eye Irrit. 2 (H319) Skin Irrit. 2 (H315) STOT SE 3 (H335) Aquatic Chronic 3 (H412)	20 - < 25
Talc	14807-96-6 238-877-9 - 01-2120140278-58	-	7 - 11
Silica, amorphous, fumed, crystalline-free	112945-52-5 231-545-4 - 01-2119379499-16	-	0.1 - < 4
glass, oxide, chemicals	65997-17-3 266-046-0 - Exempt	-	0.1 - < 2
Titanium dioxide	13463-67-7 236-675-5 - 01-2119489379-17	-	0.1 - < 2
Quartz	14808-60-7 238-878-4 - 01-2120770509-45	-	0.1 - < 1
Cobalt octoate	136-52-7 205-250-6 - 01-2119524678-29	Skin Sens. 1A (H317) Eye Irrit. 2 (H319) Repr. 1B (H360Fd) Aquatic Acute 1 (H400) Aquatic Chronic 3 (H412)  M-Factor (Acute) = 1	0.1 - < 0.3

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 3 from 18  
Print date: 11-4-2024

## **Additional instructions:**

Estimation of Acute Toxicity Refer to Section 11 for more information.  
The complete text of the hazard statements (H) is shown under section 16 of the sheet.

## **SECTION 4: First aid measures**

### **4.1 Description of first-aid measures:**

#### **General advice:**

Show this safety data sheet to the doctor on duty.  
Avoid inhalation of dust/fume/gas/mist/vapour/spray.

#### **Eye contact:**

Rinse thoroughly with plenty of water, including under the eyelids.  
Keep eyes well open during rinsing.  
If symptoms persist, consult a doctor.

#### **Skin touch:**

Immediately wash off with soap and plenty of water; remove all contaminated clothing and shoes.  
If skin irritation persists, consult a doctor.

#### **Inhalation:**

Getting into the fresh air.  
If breathing has stopped administer artificial respiration.  
Consult a doctor.

#### **Intake:**

DO NOT induce vomiting.  
Rinse mouth.  
Consult a doctor.

#### **Protection of first aiders:**

Use personal protective equipment.  
See Section 8 for more information.

### **4.2 Main acute and delayed symptoms and effects:**

#### **Eye contact:**

Irritating to eyes.

#### **Skin touch:**

Irritating to skin.  
May cause sensitisation by skin contact.

#### **Inhalation:**

Harmful: danger of serious damage to health by prolonged inhalation exposure.  
Irritating to respiratory tract.

#### **Intake:**

Ingestion may cause gastrointestinal tract irritation, nausea, vomiting and diarrhoea.

### **4.3 Indication of immediate medical attention and special treatment required:**

#### **Notes for the doctor:**

No data available.

## **SECTION 5: Fire-fighting measures**

### **5.1 Extinguishing media:**

#### **Suitable extinguishing agents**

Dry powder, Foam, Carbon dioxide (CO<sub>2</sub>), (closed systems).

#### **Unsuitable extinguishing agents**

Do not use a steady stream of water as it may splatter and spread fire.

### **5.2 Special hazards arising from the substance or mixture:**

#### **Special exposure hazards caused by the substance or preparation itself, combustion products or released gases:**

When heated or burned, toxic gas can be formed : Carbon monoxide.

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 4 from 18  
Print date: 11-4-2024

## 5.3 Advice for firefighters:

### **Special protective equipment for firefighters:**

Wear self-contained breathing apparatus and protective clothing.

### **Other information:**

Cool containers/tanks with water spray.

Combustion residues and contaminated firefighting water must be disposed of according to local regulations.

## **SECTION 6: Measures in case of accidental release of the substance or mixture**

### 6.1 Personal precautions, protective equipment and emergency procedures:

#### **For persons other than emergency services**

##### **Personal precautions:**

Avoid contact with eyes and skin.

Heat.

Ensure adequate ventilation.

Use personal protective equipment.

##### **For emergency services:**

Avoid inhalation of vapours and mists.

In case of fire and/or explosion, avoid breathing fumes.

Use personal protective equipment.

### 6.2 Environmental precautions:

The product must not run off into sewers, watercourses or soil.

Do not drain into surface water or the sewerage system.

### 6.3 Methods and materials for containment and cleaning:

Contain spillages and then collect with non-combustible absorbent material (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal in accordance with local/national regulations (see section 13).

Collect absorbed product using clean, non-sparking tools.

### 6.4 Reference to other sections:

See Section 8 for more information.

See section 12 for additional ecological information.

## **SECTION 7: Handling and storage:**

### 7.1 Precautions for safe handling of the substance or mixture:

#### **Precautions for safe handling of the substance or mixture:**

Avoid build-up of static electricity by providing a grounding.

Use only in areas with adequate extraction.

In case of inadequate ventilation, wear suitable respiratory equipment.

For personal protection, see section 8.

#### **Fire and explosion prevention:**

Keep away from open flames, hot surfaces and ignition sources.

Empty containers/containers may contain flammable or explosive vapours.

#### **Hygiene measures:**

Do not eat, drink or smoke during use.

Wash hands before every work break and at the end of the working day.

Clean equipment, workplace and clothing regularly.

### 7.2 Conditions for safe storage, including incompatibilities:

#### **Technical measures/impact conditions:**

Store in a dry, cool and well-ventilated place.

Store at a temperature below 30°C

Keep away from heat and ignition sources.

#### **Materials to avoid:**

Strong oxidising agents, Catalysts, Peroxides, Reducing agents.

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 5 from 18  
Print date: 11-4-2024

## Packaging material:

Metal-gloss PRV reservoirs (Polyester Reinforced Glass).

## Unsuitable materials for containers:

Copper, Copper alloys, Bronze, Zinc.

## 7.3 Specific end use:

No data available.

## SECTION 8: Exposure controls/personal protection measures

### 8.1 Control parameters:

Exposure limits:

Chemical name	European Union	ACGIH OEL (Ceiling)	Netherlands
Styrene 100-42-5	-	ACGIH (2020): TLV-TWA: 10 ppm TLV-STEL/C: 20 ppm Notes: RTD, A3, BEI Critical effects: CNS and hearing impairment, URT irr, peripheral neuropathy visual disorders	We are not aware of any national exposure limit.
Titanium dioxide 13463-67-7		TWA 10 mg/m <sup>3</sup>	We are not aware of any national exposure limit.
Talk 14807-96-6		TWA 2 mg/m <sup>3</sup>	TWA 0.25 mg/m <sup>3</sup>
Cobalt octoate 136-52-7		0.02 mg/m <sup>3</sup>	We are not aware of any national exposure limit.
Quartz 14808-60-7		0.02 mg/m <sup>3</sup>	We are not aware of any national exposure limit.

Special hazards arising from the substance or mixture

### Biological standards

#### Derived no-effect doses (DNEL)

styrene (100-42-5)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Comments
Workers - Long-term - Systemic effect		406 mg/Kg bw/day	85 mg/m <sup>3</sup>	
Workers - Acute Short Term - Local effect			306 mg/m <sup>3</sup>	
Workers - Acute Short term - Systemic effect			289 mg/m <sup>3</sup>	
General Population - Acute Short Term - Local effect			182.7 mg/m <sup>3</sup>	
General Population - Acute Short Term - Systemic effect			174.2 mg/m <sup>3</sup>	
General Population - Long-term - Systemic effect	2.1 mg/Kg bw/day	343 mg/Kg bw/day	10.2 mg/m <sup>3</sup>	

Titanium dioxide (13463-67-7)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Comments
Workers - Acute Short Term - Local effect			10 mg/m <sup>3</sup>	
General Population - Long-term - Systemic effect	700 mg/kg bw/day			

Talk (14807-96-6)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Comments
Workers - Acute Short term - Systemic effect			2.16 mg/m <sup>3</sup>	
Workers - Acute Short Term - Local effect			3.6 mg/m <sup>3</sup>	

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 6 from 18  
Print date: 11-4-2024

Workers - Long-term - Systemic effect		43.2 mg/kg bw/day	2.16 mg/m <sup>3</sup>	
Workers - Long-term - Local effect		4.54 mg/cm <sup>2</sup>	3.6 mg/m <sup>3</sup>	
General Population - Acute Short Term - Systemic effect			1.08 mg/m <sup>3</sup>	
General Population - Acute Short Term - Local effect			1.8 mg/m <sup>3</sup>	
General Population - Long-term - Systemic effect	160 mg/kg bw/day	21.6 mg/kg bw/day	1.08 mg/m <sup>3</sup>	
General Population - Long-term - Local effect		2.27 mg/cm <sup>2</sup>	1.8 mg/m <sup>3</sup>	

## Silica, amorphous, fumed, crystalline-free (112945-52-5)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Comments
Workers - Long-term - Systemic effect			4 mg/m <sup>3</sup>	

## Cobalt octoate (136-52-7)

Type	DNEL oral	DNEL dermal	DNEL inhalation	Comments
Workers - Long-term - Local effect			235.1 µg/m <sup>3</sup>	
General Population - Long-term - Systemic effect	175 µg/kg bw/day			
General Population - Long-term - Local effect			37 µg/m <sup>3</sup>	

## Predicted no-effect concentration (PNEC)

PNEC Component  
styrene (100-42-5)

Exposure	Type	PNEC
Freshwater	PNEC Aqua	0.028 mg/L
Seawater	PNEC Aqua	0.014 mg/L
Intermittent use/intermittent emission	PNEC Aqua	0.04 mg/L
Freshwater	PNEC Sediment	0.614 mg/Kg.dw
Seawater	PNEC Sediment	0.307 mg/Kg.dw
Terrestrial compartment	PNEC Soil	0.2 mg/Kg.dw
STP microorganisms	PNEC STP	5 mg/L

## Titanium dioxide (13463-67-7)

Exposure	Type	PNEC
Freshwater	PNEC Aqua	0.184 mg/L
Seawater	PNEC Aqua	0.0184 mg/L
Intermittent use/intermittent emission	PNEC Aqua	0.193 mg/L
	PNEC STP	100 mg/L
Freshwater	PNEC Sediment	1000 mg/kg sediment dw
Seawater	PNEC Sediment	100 mg/kg sediment dw
	PNEC Soil	100 mg/kg soil dw

## Talk (14807-96-6)

Exposure	Type	PNEC
Freshwater	PNEC Aqua	597.97 mg/L
Seawater	PNEC Aqua	141.26 mg/L
Freshwater	PNEC Sediment	31.33 mg/kg sediment dw
Seawater	PNEC Sediment	3.13 mg/kg sediment dw

## Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure	Type	PNEC
Poisoning through	PNEC Oral	60000 mg/kg

## Cobalt octoate (136-52-7)

Exposure	Type	PNEC
Freshwater	PNEC Aqua	0.62 µg/L

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 7 from 18  
Print date: 11-4-2024

Seawater	PNEC Aqua	2.36 µg/L
STP microorganisms	PNEC STP	0.37 mg/L
Freshwater	PNEC Sediment	53.8 mg/kg sediment dw
Seawater	PNEC Sediment	69.8 mg/kg sediment dw
	PNEC Soil	10.9 mg/kg soil dw

## 8.2 Exposure control measures:

### Control of occupational exposure

#### Technical measures:

Apply engineering measures to comply with MAC values.

When working in confined spaces (tanks, containers, etc.), ensure that sufficient breathable air is supplied and wear the recommended equipment.

#### Personal protective equipment

##### General information:

Use personal protective equipment.

##### Respiratory protection

Ensure a good level of general ventilation (not less than 3-5 air changes per hour).

If exposure limits are likely to be breached / In case of inadequate ventilation, wear suitable respirator :

Respirator with filter Type A ( Filter for organic gases and vapours according to EN 14387 , APF 40 < 1 h, APF 200 > 1 h ) / Type A(2)/P3 in combination with Particle filter according to EN 143 , when exposed to dust.

##### Eye protection

Safety glasses with side flaps.

Do not wear contact lenses.

##### Skin and body protection

Anti-static boots.

Safety shoes or boots.

Wear fire/flamm-resistant/fireproof clothing.

##### Hand protection

Wear chemical-resistant gloves (complying with EN 374) in combination with basic employee training.

Glove material : Neoprene , Nitrile , Viton (R) or Polyvinyl alcohol.

Gloves should be discarded and replaced at signs of degradation or chemical breakthrough.

##### Managing environmental exposure

Do not allow product to contaminate groundwater.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties:

Physical state:	Pasta
Colour:	Variable (This data sheet contains all colours).
Occurrence:	No data available
Particle size:	No data available
Odour:	styrene
Odour threshold value:	0.15 ppm These reference values refer to the Styrene
pH:	No data available
pH (as an aqueous solution):	No data available
Melting point/range:	- 30°C These reference values refer to the Styrene
Freezing point:	No data available
Softening point:	No data available
Boiling point:	145°C These reference values refer to the Styrene
Flash point:	Non-flammable solid
<b>Flammability limit in air</b>	
Upper:	6.1 - 6.8% These reference values refer to the Styrene
Lower:	0.9 -1.1% These reference values refer to the Styrene
Vapour pressure:	6 hPa 20°C

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 8 from 18  
Print date: 11-4-2024

Vapour density:	3.6 These reference values refer to the Styrene
Density:	1.26 g/cm <sup>3</sup> 20°C
Specific gravity:	No data available
Bulk specific gravity:	No data available
Solubility in water:	Not applicable
Solubility in other solvents:	No data available
Partition coefficient: n-octanol/water:	3. These reference values refer to the Styrene
Self-ignition temperature:	490°C These reference values refer to the Styrene
Decomposition temperature:	No data available
Viscosity, kinematic:	2976200 mm <sup>2</sup> /s 23°C
Viscosity, dynamic:	3750000 mPa.s 23°C

## 9.2. Other information

### **Information on physical hazard classes**

Explosives:	No data available
Flammable gases:	No data available
Aerosols:	No data available
Oxidising gases:	No data available
Gases under pressure:	No data available
Flammable liquids:	No data available
Flammable solids:	No data available
Pyrophoric liquids:	No data available
Pyrophoric solids:	No data available
Substances and mixtures liable to self-heat:	No data available
Substances and mixtures which emit flammable gases in contact with water:	No data available
Oxidising liquids:	No data available
Oxidising solids:	No data available
Oxidising properties:	No data available
Organic peroxides:	No data available
Corrosive to metals:	No data available
Desensitised explosives:	No data available

### **Other safety features**

Sensitivity to mechanical shock:	No data available
SAPT (temperature of self-accelerating polymerisation):	No data available
Formation of explosive dust-air mixtures:	No data available
Acid/base reserve:	No data available
Miscible:	No data available
Conductivity:	No data available
Corrosivity:	No data available
Gas group:	No data available
Redox potential:	No data available
Photocatalytic properties:	No data available

## **SECTION 10: Stability and reactivity**

### 10.1 Reactivity:

No data available.

### 10.2 Chemical Stability:

Stable under recommended storage conditions.

### 10.3 Potential Hazardous Reactions:

#### **Dangerous reactions:**

May form a flammable/explosive vapour-air mixture if used.

#### **Hazardous polymerisation:**

Polymerisation may occur.

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 9 from 18  
Print date: 11-4-2024

## 10.4 Conditions to avoid:

Heat.

Exposure to light.

## 10.5 Chemically interacting Materials:

Strong oxidising agents, Catalysts, Peroxides, Reducing agents.

## 10.6 Hazardous Decomposition Products:

Incomplete combustion and thermolysis produce potentially toxic gases such as carbon monoxide and carbon dioxide.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects:

#### Acute toxicity

##### Inhalation:

Harmful: danger of serious damage to health by prolonged exposure through inhalation.

Irritating to respiratory tract.

##### Intake:

Ingestion may cause irritation of gastrointestinal tract, nausea, vomiting and diarrhoea.

Chemical name	LD50 oral	LD50 skin	LC50 Inhalation	Read across
styrene 100-42-5	5000 mg/kg (Rat)	> 2000 mg/kg bw (Rat) 24h OECD 402	11.8 mg/L (Rat) 4h CSR	
Titanium dioxide 13463-67-7	> 5000 mg/kg bw (Rat) OECD 425, EPA OPPTS 870,1100		> 6.82 mg/L air (Rat) 4h No guideline followed	
Talk 14807-96-6	> 5000 mg/kg bw (Rat) OECD 423	> 2000 mg/kg bw (Rat) OECD 402		
Silica, amorphous, fumed, crystalline-free 112945-52-5	> 5000 mg/kg bw (Rat) OECD 401	> 5000 mg/kg (Rabbit)	> 0.14 mg/L air (Rat) 4h (analytical) OECD 403	
Cobalt octoate 136-52-7	3129 mg/kg/bw (Rat) OECD 425	> 2000 mg/kg bw (Rat) OECD 402		
glass, oxide, chemicals 65997-17-3	2000 - 5000 mg/kg (estimated)	> 5000 mg/kg (estimated)		

### Skin corrosion/irritation

Chemical name	skin corrosion/irritation	Read across
styrene 100-42-5	Irritating to skin in vivo test rabbit	
Titanium dioxide 13463-67-7	No skin irritation in vivo test rabbit OECD 404 EPA OPPTS 870,2500	
Talk 14807-96-6	No skin irritation in vivo test in vitro test rabbit OECD 404 EU Method B.46	
Silica, amorphous, fumed, crystalline-free 112945-52-5	No skin irritation rabbit OECD 404	
Cobalt octoate 136-52-7	No Skin corrosion in vitro test OECD 431 EU Method B. 40	
Quartz 14808-60-7	No skin irritation	

### Serious eye damage/eye irritation

Chemical name	Serious eye damage/eye irritation	Read across

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 10 from 18  
Print date: 11-4-2024

styrene 100-42-5	Irritating to eyes in vivo test rabbit	
Titanium dioxide 13463-67-7	No eye irritation in vivo test rabbit OECD 405 EU Method B.5 EPA OPPTS 870.2400	
Talk 14807-96-6	No eye irritation in vivo test (rabbit) OECD 405	
Silica, amorphous, fumed, crystalline-free 112945-52-5	No eye irritation rabbit OECD 405	
Cobalt octoate 136-52-7	Moderate eye irritation OECD 437 EU Method B.47 Irritating to eyes rabbit OECD 405	
Quartz 14808-60-7	No eye irritation	

## Respiratory/skin sensitisation

May cause sensitisation by skin contact.

Chemical name	Respiratory or skin sensitisation	Read across
styrene 100-42-5	Does not cause hypersensitivity of the skin Does not cause respiratory hypersensitivity CSR	
Titanium dioxide 13463-67-7	Does not cause hypersensitivity of the skin in vivo test guinea pig OECD 406 EU Method B.6 EPA OPP 81-6 mouse Similar to OECD 429	
Talk 14807-96-6	Does not cause hypersensitivity of the skin in vivo test guinea pig OECD 406	
Silica, amorphous, fumed, crystalline-free 112945-52-5	Does not cause hypersensitivity of the skin Does not cause respiratory hypersensitivity	
Cobalt octoate 136-52-7	May cause sensitisation on contact with the skin in vivo test mouse OECD 429	
Quartz 14808-60-7	Does not cause hypersensitivity of the skin	

## Mutagenic effects

In vitro trial

Chemical name	Ames test	Read across
styrene 100-42-5	Ambiguous In vitro test for gene mutation in bacteria (S. typhimurium G46, TA1530, TA 1535, TA100, TA98, TA1538, TA 1537) OECD 471	
Titanium dioxide 13463-67-7	negative In vitro test for gene mutation in bacteria (S. typhimurium TA 1535, TA 1537, TA 98, TA100 and TA 102) OECD 471	

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 11 from 18  
Print date: 11-4-2024

Talk 14807-96-6	negative In vitro test for gene mutation in bacteria Salmonella sp. Similar to OECD 471 EU Method B.13/14	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro test for gene mutation in bacteria OECD 471	
Cobalt octoate 136-52-7	negative In vitro test for gene mutation in bacteria (S. typhimurium TA 1535, TA 1537, TA 98, TA100 and TA 102) OECD 471	

Chemical name	In vitro gene mutation test in mammals	Read across
styrene 100-42-5	Ambiguous In vitro test for gene mutation in mammalian cells hamster OECD 476	
Titanium dioxide 13463-67-7	negative In vitro test for gene mutation in mammalian cells mouse OECD 476	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro test for gene mutation in mammalian cells OECD 476	
Cobalt octoate 136-52-7	negative In vitro test for gene mutation in mammalian cells mouse OECD 476	Cas N°: 7440-48-4, 1308-06-1, 10124-43-3, 12016-80-7

Chemical name	In vitro test for mammalian chromosome aberrations	Read across
styrene 100-42-5	positive In vitro test for chromosomal abnormalities OECD 473 OECD 479	
Titanium dioxide 13463-67-7	negative In vitro test for chromosomal abnormalities hamster OECD 473	
Talk 14807-96-6	negative In vitro test for chromosomal abnormalities rat Similar to OECD 473 EU Method B.10	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative In vitro test for chromosomal abnormalities OECD 473	

## In vivo trial

Chemical name	In vivo test on unplanned DNA synthesis (Unscheduled DNA Synthesis; UDS)	Read across
styrene 100-42-5	negative mouse OECD 486 OECD 474	
Titanium dioxide 13463-67-7	negative rat OECD 474	
Silica, amorphous, fumed, crystalline-free 112945-52-5	negative rat	
Cobalt octoate 136-52-7	negative rat OECD 474 OECD 475	Cas N°: 68956-82-1, 14024-48-7, 10026-24-1

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 12 from 18  
Print date: 11-4-2024

## Carcinogenicity

styrene (100-42-5)

Exposure routes	Method	Types	Dose	Evaluation
Inhalation	OECD 453	Rat	NOAEC systemic (carcinogenicity) $\geq$ 4.34 mg/L air (nominal)	Negative
Inhalation	OECD 453	Mouse	LOAEC (carcinogenicity) female/male = 0.09 - 0.18 mg/L air resp, NOAEC (carcinogenicity) male = 0.09 mg/L air	Positive
Oral	No data available	Rat	NOAEL (carcinogenicity) $\geq$ 2000 mg/kg bw /day	Positive
Oral	No data available	Mouse	LOAEL (carcinogenicity) = 150 mg/kg bw /day	Positive

Talk (14807-96-6)

Exposure routes	Method	Types	Dose	Evaluation
Oral	OECD 453	Rat	NOAEL (101d) = 100 mg/kg bw/day	Negative
Inhalation	OECD 453	Mouse	NOAEC (104 weeks) = 6-18 mg/m <sup>3</sup> air	Negative
Inhalation	OECD 453	Rat	NOAEC = 6-18 mg/m <sup>3</sup> air	Negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Types	Dose	Evaluation
Oral	OECD 453	Rat	NOAEL = 1800 - 3200 mg/kg bw/day	Negative

Hydrocarbons, C9-C12, n-alkanes, isoalkanes, cyclics, aromatics (2-25%) (64742-82-1)

Exposure routes	Method	Types	Dose	Evaluation
Inhalation	Similar to OECD 453	Rat	NOAEC (female) $\geq$ 2 200 mg/m <sup>3</sup> air NOAEC (male) = 138 mg/m <sup>3</sup> air	Negative

Paraffin waxes and Hydrocarbon waxes (8002-74-2)

Exposure routes	Method	Types	Dose	Evaluation
Skin		Mouse	NOEL (carcinogenicity) = 128 mg/kg bw/day	Negative

## Reproductive toxicity

styrene (100-42-5)

Exposure routes	Method	Types	Dose	Evaluation
Inhalation	No data available	Rat	NOAEL/LOAEL (fertility) 60d = 100 - 200 mg/kg bw/day	Positive
Oral	OECD 422	Rat	NOAEL/LOAEL (fertility) 60d = 200 - 400 mg/kg bw/day	Positive
Inhalation	OECD 416	Rat	NOAEC (P, F1) = 0.64 mg/L air LOAEC (P, F1) = 2.13 mg/L air NOAEC (F2) = 0.21 mg/L air LOAEC (F2) = 0.64 mg/L air (70d)	Negative

Talk (14807-96-6)

Exposure routes	Method	Types	Dose	Evaluation
Oral	Similar to OECD 416	Rabbit	NOAEL (reproduction & F1) > 900 mg/kg bw/day	Negative

Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Types	Dose	Evaluation
Oral	OECD 415	Rat	NOAEL = 497 mg/kg bw/day	Negative

Cobalt octoate (136-52-7)

Exposure routes	Method	Types	Dose	Evaluation
Oral	Read across Cas N°: 7440-48-4 OECD 422	Rat	NO(A)EL (P&F1) 28d = 30 mg/kg bw/day	Positive

## Developmental toxicity

Could potentially harm the unborn child.

styrene (100-42-5)

Exposure routes	Method	Types	Dose	Evaluation
Inhalation	No data available	Rat	NOAEC/LOAEC (maternal toxicity + developmental toxicity) $>50d$ = 1.08 - 2.15 mg/L air	Positive
Inhalation	OECD 414	Rat	LOAEC (maternal toxicity) 6-15d = 1.28 mg/L air	Positive
Inhalation	OECD 414	Rat	NOAEC (developmental toxicity) 6-15d $\geq$ 2.56 mg/L air	Negative

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 13 from 18  
Print date: 11-4-2024

Inhalation	OECD 414	Rabbit	NOAEC (maternal toxicity + developmental toxicity) 6-18d = 2.56 mg/L air	Negative
------------	----------	--------	--	----------

## Titanium dioxide (13463-67-7)

Exposure routes	Method	Types	Dose	Evaluation
Oral	OECD 414	Rat	NOAEL (maternal & developmental toxicity) 20d = 1000 mg/kg bw/day	Negative

## Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Types	Dose	Evaluation
Oral	OECD 415	Rat	NOAEL (maternal toxicity) = 1350 mg/kg bw/day NOAEL (teratogenicity) = 1350 mg/kg bw/day	Negative

### Specific target organ toxicity - single exposure

May cause respiratory tract irritation.

### Specific target organ toxicity - repeated exposure

Causes damage to organs with prolonged or repeated exposure.

Target organ(s): Central nervous system, Ears.

## styrene (100-42-5)

Exposure routes	Method	Types	Dose	Comments
Inhalation	OECD 412	Rat - Mouse	NOAEC male (28d) = 3.47 mg/L air NOAEC (ototoxicity) 28d = 2.13 mg/L air NOAEC (28d) = 0.181 mg/L air NOAEC (28d) = 0.688 mg/L air	
Inhalation	No data available	Rat	NOAEC (nasal tract) = 0.85 mg/L air NOAEC (overall) = 2.13 mg/L air NOAEC (ototoxicity) = 0.85 mg/L air LOAEC (ototoxicity) = 3.41 mg/L air NOAEC (overall) = 2.13 mg/L air	
Oral	No data available	Rat	NOAEL (toxicity) = 1000 mg/kg bw/day LOAEL (toxicity) = 2000 mg/kg bw/day	
Oral	No data available	Mouse	NOAEL (toxicity) = 150 mg/kg bw /day LOAEL (toxicity) = 300 mg/kg bw /day	
Inhalation	OECD 453	Rat	LOAEC local (toxicity) = 0.21 mg/L air	

## Titanium dioxide (13463-67-7)

Exposure routes	Method	Types	Dose	Comments
Oral	OECD 407	Rat	NOEL (29d) = 24000 mg/kg bw/day	
Oral	OECD 408	Rat	NOAEL (92-93d) > 1000 mg/kg/day	

## Talk (14807-96-6)

Exposure routes	Method	Types	Dose	Comments
Inhalation	Similar to OECD 412	Rat	NOAEC (20d) = 2-6-18 mg/m <sup>3</sup>	
Oral	Similar to OECD 452	Rat	NOAEL (101d) = 100 mg/kg bw/day	
Inhalation	Similar to OECD 452	Rat	NOAEC = 10.8 mg/m <sup>3</sup> air	

## Silica, amorphous, fumed, crystalline-free (112945-52-5)

Exposure routes	Method	Types	Dose	Comments
Oral	OECD 408	Rat	NOEL (highest dose) 4000 <= 4500 mg/kg bw/day 90d	
Inhalation	OECD 413	Rat	NOEC = 1.3 mg/m <sup>3</sup> air NOEC < 1.3 mg/m <sup>3</sup> air 90d	
Skin	No data available	Rabbit	NOAEL >= 10000 mg/kg bw/day	

## Cobalt octoate (136-52-7)

Exposure routes	Method	Types	Dose	Comments
Oral	Read across cobalt dichloride hexahydrate OECD 408	Rat	NOAEL (90d) = 3 mg/kg bw/day	

### Aspiration hazard

Due to its viscosity, this product does not pose an aspiration hazard.

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 14 from 18  
Print date: 11-4-2024

## 11.2. Information on other hazards

### Endocrine disrupting properties:

No data available

### Other information:

No

## SECTION 12: Ecological information

### 12.1 Toxicity:

Harmful to aquatic organisms; may cause long-term adverse effects in the aquatic environment.

Do not drain into surface water or the sewerage system.

### Acute aquatic toxicity - Component data

Chemical name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to micro-organisms
styrene 100-42-5	EC50 (72h) = 4.9 mg/L (Pseudokirchnerella subcapitata) EPA OTS 797.1050	EC50 (48h) = 4.7 mg/L (Daphnia magna) NOEC = 1.9 mg/L (Daphnia magna) OECD 202	LC50 (96h) = 4.02 - 10 mg/L (Pimephales promelas) OECD 203	EC (30min) = 500 mg/L (Activated sludge of a predominantly domestic sewage) OECD 209
Titanium dioxide 13463-67-7	EC50 (72h) > 100 mg/L (Pseudokirchneriella subcapitata) NOEC (72h) >= 100 mg/L (Pseudokirchneriella subcapitata) OECD 201	EC50 (48h) > 100 mg/L (Daphnia magna) OECD 202	LC50 (96h) > 100 mg/L (Carassius auratus) NOEC (96h) >= 100 mg/L (Carassius auratus) OECD 203	EC50 (3h) > 1000 mg/L, NOEC (3h) >= 1000 mg/L (Activated sludge of a predominantly domestic sewage) OECD 209
Talk 14807-96-6	EC50 (96h) = 7202,700 mg/L (Green Algae) NOEC (30d) = 918.089 mg/L (Green Algae) QSAR	LC50 (48h) = 36812.359 mg/L (Daphnid species) QSAR	LC50 (96h) = 89581.016 mg/L (Fishes species) QSAR	
Silica, amorphous, fumed, crystalline-free 112945-52-5		EL50 (24h) >= 1000 mg/L (Daphnia magna) OECD 202	LC50 (96h) > 10000 mg/L (Brachydanio rerio) OECD 203	
Cobalt octoate 136-52-7	EC50 (72h) = 144 µg Codiss./L (Pseudokirchneriella subcapitata) NOEC (72h) = 32.2 µg./L (Pseudokirchneriella subcapitata) LOEC (72h) = 52.7 µg Codiss./L (Pseudokirchneriella subcapitata) OECD 201		LC50 (96h) = 1,512 mg/L (Oncorhynchus mykiss) NOEC (96h) = 0.939 mg/L (Oncorhynchus mykiss) LOEC (96h) = 1,577 mg/L (Oncorhynchus mykiss) ASTM guideline (1996)	EC10 (30 min) = 3.73 mg/L (Activated sludge) EC50 (30 min) = 120 mg/L (Activated sludge) Read across with Cas N°: 7646-79-9 OECD 209

### Chronic aquatic toxicity - Ingredient data

Chemical name	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates.	Toxicity to fish	Toxicity to micro-organisms
styrene 100-42-5		NOEC (21d) = 1.01 mg/L (Daphnia magna) LOEC (21d) = 2.06 mg/L (Daphnia magna)		

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 15 from 18  
Print date: 11-4-2024

		EC50 (21d) = 1.88 mg/L (Daphnia magna) OECD 203		
Cobalt octoate 136-52-7	EC50 (7d) = 90.1 µg/L (Lemna minor) NOEC (7d) = 3.0 µg/L (Lemna minor) LOEC (7d) = 8.8 µg/L (Lemna minor) OECD 221	NOECR (21d) = 60.8 µg/L (Daphnia magna) LC50 (21d) = 121.3 mg/L (Daphnia magna) LOECR (21d) = 93.3 µg Codiss./L (Daphnia magna) OECD 211		

## Effects on terrestrial organisms - Component data

### Chronic toxicity

Chemical name	Method	Types	Values	Comments
styrene 100-42-5	OECD 207	Eisenia foetida	LC50 (14d) = 120 mg/kg soil dw LOEC (burrowing time and mean percent weight change) = 65 mg/kg soil dw LOEC (survival) = 180 mg/kg soil dw NOEC (mean percent weight change) = 34 mg/kg soil dw	Toxicity to aquatic invertebrates
(2-methoxymethylethoxy)propanol 34590-94-8	OECD 227	Grossypium hirsutum	NOEC (21d) = 250 g/L	Toxicity to plants

### 12.2 Persistence and Degradability:

Chemical name	Biodegradation	Evaluation
styrene 100-42-5	87% (20d) similar to OECD 301D	Readily biodegradable
Cobalt octoate 136-52-7	60% (> 10d), OECD 301 B	Readily biodegradable

### 12.3 Bioaccumulation:

#### Bioconcentration factor (BCF)

styrene (100-42-5)

Method	Types	Bioconcentration factor (BCF)
Calculation method		74

Chemical name	Log Pow
styrene 100-42-5	3
Talk 14807-96-6	-9.4

### 12.4 Mobility in soil:

Chemical name	LogKoc	Koc
styrene 100-42-5	2.55	352
Talk 14807-96-6	1.5027	31.82

### 12.5 Results of PBT and vPvB assessment:

Chemical name	PBT	vPvB
styrene 100-42-5	This substance is not considered persistent, bioaccumulative, or toxic (PBT).	This substance is not considered very persistent or very bioaccumulative (vPvB).
Titanium dioxide 13463-67-7	This substance is not considered persistent, bioaccumulative, or toxic (PBT).	This substance is not considered very persistent or very bioaccumulative (vPvB).
Talk 14807-96-6	This substance is not considered persistent, bioaccumulative, or toxic (PBT).	This substance is not considered very persistent or very bioaccumulative (vPvB).

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 16 from 18  
Print date: 11-4-2024

Silica, amorphous, fumed, crystalline-free 112945-52-5	This substance is not considered persistent, bioaccumulative, or toxic (PBT).	This substance is not considered very persistent or very bioaccumulative (vPvB).
---	--	---

## 12.6. Endocrine-disrupting properties

No data available.

## 12.7 Other Harmful Effects:

Nothing known.

## **SECTION 13: Disposal instructions**

### 13.1 Waste treatment methods:

#### **Waste from residues/unused products**

Dispose of in accordance with European Directives on waste and hazardous waste.

Do not drain into surface water or the sewerage system.

#### **Contaminated packaging**

Empty containers should be disposed of at an authorised waste treatment facility for reuse or disposal.

#### **Other information**

According to the European waste list, waste codes are not product-specific, but application-specific.

Waste codes should be assigned by the user, based on the application for which the product was used.

## **SECTION 14: Information relating to transport**

### 14.1 UN number

Unregulated.

### 14.2 Proper cargo name according to UN model regulations

Unregulated.

### 14.3 Transport hazard class(es)

Unregulated.

### 14.4 Packing group

Unregulated.

### 14.5 Environmental hazards

Unregulated.

### 14.6 Special precautions for the user

Unregulated.

### 14.7 Transport in bulk in accordance with Annex II to MARPOL 73/78 and the IBC Code

Information not applicable.

## **SECTION 15: Statutory information**

### 15.1 Safety, health and environmental regulations and legislation specific to the substance or mixture:

Regulation (EC) No 1907/2006 (REACH)

Regulation (EC) No 1272/2008 (CLP)

Regulation (EU) No 2020/878

Directive 88/642/EEC

Directive 98/24/EC

Directive 1999/92/EC

Directive 2012/18/EU

**The mixture is subject to restrictions on use: see Annex XVII of Regulation 1907/2006/EC (REACH):**

Column 1, no. 3.

#### **European Union**

#### **Information on national regulations**

##### **Netherlands**

Avoid exceeding the prescribed MAC values (see section 8).

### 15.2 Chemical safety assessment:

#### **Chemical safety assessment:**

Yes

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1 Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 17 from 18  
Print date: 11-4-2024

## Exposure scenario:

Information relevant for risk management shall be communicated in the form of an exposure scenario attached to the safety data sheet.

## SECTION 16: Other information

### Full text of H phrases in paragraphs 2 and 3

H226 - Flammable liquid and vapour

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause allergic skin reaction

H319 - Causes severe eye irritation

H332 - Harmful by inhalation

H335 - May cause respiratory tract irritation

H360Fd - May impair fertility. Suspected of damaging the unborn child

H361d - Suspected of damaging the unborn child

H372 - Causes damage to organs through prolonged or repeated exposure by inhalation

H400 - Very toxic to aquatic organisms

H412 - Harmful to aquatic life with long-lasting effects

### Abbreviations:

Acute Tox.	Acute toxicity
Aquatic Acute	Danger to the aquatic environment. Acute.
Aquatic Chronic	Danger to the aquatic environment. Chronic.
Asp. Tox.	Aspiration hazard.
Eye Irrit.	Severe eye damage/eye irritation.
Flam. Liq.	Flammable liquid.
Repr.	Reproductive toxicity.
Skin Irrit.	Corrosion/irritation to skin.
Skin Sens.	Sensitivity to respiratory tract / skin.
STOT RE	Specific target organ toxicity - repeated exposure.
STOT SE	Specific target organ toxicity - single exposure.

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road (ADR Agreement); AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Association for the Testing of Materials; bw - Body Weight; CLP - Regulation on Classification, Labelling and Packaging; Regulation (EC) No 1272/2008; CMR - Carcinogenic, mutagenic or toxic to reproduction; DIN - Standard of the German Institute for Standardisation; DSL - List of substances used indoors (Canada); ECHA - European Chemicals Agency; EC-Number - EINECS number; ECx - Concentration associated with x% response; ELx - Charge capacity associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemicals (Japan); ErCx - Concentration associated with x% growth response; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk; IC50 - Half-Maximum Inhibitory Concentration; ICAO - International Civil Aviation Organisation; IECSC - Inventory List of Existing Chemicals in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; KECI - Korean Inventory of Existing Chemicals; LC50 - Lethal concentration for 50% of a test population; LD50 - Lethal dose for 50% of a test population (lethal dose median); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not otherwise specified; NO(A)EC - No discernible (negative) effect on concentration; NO(A)EL - No discernible (negative) effect on Level; NOELR - No discernible effect on cargo capacity; NZIoC - New Zealand inventory of chemicals; OECD - Organisation for Economic Co-operation and Development OECD; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, bioaccumulative and toxic substance; PICCS -

# SAFETY DATA SHEET

According to directive 1907/2006/EC, 2020/878  
Version 5.1                      Revision date: 28-02-2023  
Trade name: Gravicol 2397 TC

Sheet: Page 18 from 18  
Print date: 11-4-2024

Philippine inventory of chemicals and chemical substances; (Q)SAR - (Quantitative) structure-activity relationships; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH); RID - Regulations concerning the International Carriage of Dangerous Goods by Rail (RID); SADT - Self-accelerating decomposition temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwanese Inventory of Chemical Substances; TECI - Inventory of Chemicals Existing in Thailand; TRGS - Technical Regulation on Hazardous Substances; TSCA - Toxic Substances Control Act (USA); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative.

## Training advice

Use according to good industrial hygiene and safety.  
Follow the instructions for use to avoid danger to people and the environment.

## Sources of core data used to prepare the data sheet:

ECHA

This safety data sheet is in accordance with the requirements of Regulation (EC) 1907/2006

## Indemnity clause

The information in this safety data sheet is correct to the best of our knowledge at the date of issue indicated. This information is intended only as guidance for safe handling, use, processing, storage, transportation, disposal, and release, and should not be considered a guarantee or indication of quality. The information relates only to the product mentioned herein and is not automatically valid when used with other products or in any other process, unless stated in the text.