



## MAKROLON 9415

Version 1.9

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

#### 1.1 Product identifier

#### MAKROLON 9415

**Material number:** 56978791

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

**Use:**

Production of moulded plastic articles

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

Covestro Deutschland AG  
COV-CTO-HSEQ-PSRA-PSI  
D-51365 LEVERKUSEN

Tel.: +49 214 6009 4068  
e-mail: ProductSafetyEMLA@covestro.com

#### 1.4 Emergency telephone number

In case of emergency: +49 214 30 99300 (Safety Desk)  
National Chemical Emergency Centre - UK  
Tel: +44 1865 407 333

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

No classification in accordance with the Regulation (EC) No. 1272/2008.

#### 2.2 Label elements

No labeling necessary according to the Regulation (EC) No. 1272/2008.

#### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### SECTION 3: Composition/information on ingredients

**Type of product:** Mixture

#### 3.2 Mixtures

Polycarbonate based on bisphenol A, glass-fibre reinforced with very small amounts of anti-combustion agents

No dangerous ingredients according to REACH-Regulation (EC) No. 1907/2006.

**Candidate List of Substances of Very High Concern for Authorisation**

This product contains no substances of very high concern in concentrations where an information obligation applies (REACH Regulation (EC) No. 1907/2006, Article 59).

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

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

**In case of skin contact:** CONTACT WITH THE HOT MELT: Cool immediately with plenty of water. Do not remove product crusts which may have formed neither forcibly nor by applying any solvents to the skin involved. To obtain treatment for possible burns, and appropriate skin care, seek medical advice immediately.

The following information refers to the handling of the product at room temperature. In case of skin contact wash affected areas thoroughly with soap and plenty of water.

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

**Notes to physician:** No information available.

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

**Therapeutic measures:** No information available.

#### **SECTION 5: Firefighting measures**

##### **5.1 Extinguishing media**

**Suitable extinguishing media:** sprayed water jet, extinguishing powder, Carbon dioxide (CO<sub>2</sub>), Foam, Dry chemical

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

Burning releases carbon monoxide, carbon dioxide, oxides of nitrogen and traces of hydrogen cyanide. In the event of fire and/or explosion do not breathe fumes.

##### **5.3 Advice for fire-fighters**

Firemen must wear self-contained breathing apparatus.

Do not allow contaminated extinguishing water to enter the soil, ground-water or surface waters.

#### **SECTION 6: Accidental release measures**

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

Granules - slip hazard!

##### **6.2 Environment related measures**

Do not flush into surface water or sanitary sewer system.

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

Use mechanical handling equipment. Avoid dust formation.

##### **6.4 Reference to other sections**

For further disposal measures see section 13.

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

Under recommended processing conditions small amounts of residues of monomers and residual solvent may be emitted. Provided good ventilation and/or local exhaust systems are used, the Workplace Exposure Limit(s) stated in section 8 should not be exceeded.

In case of mechanical processing, dust must be removed by effective exhaust ventilation.

Keep away from foodstuffs, drinks and tobacco. Wash hands before breaks and at end of work and use skin-protecting ointment. Change contaminated clothing.

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

No special storage conditions required.

Storage class (TRGS 510) : 11: Combustible Solids

**7.3 Specific end use(s)**

No information available.

**SECTION 8: Exposure controls/personal protection**

UK Workplace Exposure Limits (WEL), per EH40 document (Health & Safety Executive). If no UK value exists, EU exposure limits given where available.

**8.1 Control parameters**

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures. In our experience the provision of effective fresh-air and exhaust ventilation equipment at the points where vapors may be generated will ensure compliance with the tolerance limits quoted below.

Substance	CAS-No.	Basis	Type	Value	Ceiling Limit Value	Remarks
phenol	108-95-2	EH40 WEL				Dermal absorption possible
phenol	108-95-2	EH40 WEL	STEL	4 ppm 16 mg/m3		
phenol	108-95-2	EH40 WEL	TWA	2 ppm 7.8 mg/m3		
phenol	108-95-2	EU ELV	TWA	2 ppm 8 mg/m3		Indicative
phenol	108-95-2	EU ELV				Dermal absorption possible
phenol	108-95-2	EU ELV	STEL	4 ppm 16 mg/m3		Indicative
chlorobenzene	108-90-7	EH40 WEL				Dermal absorption possible
chlorobenzene	108-90-7	EH40 WEL	TWA	1 ppm 4.7 mg/m3		
chlorobenzene	108-90-7	EH40 WEL	STEL	3 ppm 14 mg/m3		
chlorobenzene	108-90-7	EU ELV	TWA	5 ppm 23 mg/m3		Indicative
chlorobenzene	108-90-7	EU ELV	STEL	15 ppm 70 mg/m3		Indicative
2,2-Bis-(4-hydroxyphenyl)-propane (4,4'-Isopropylidenediphenol)	80-05-7	EH40 WEL	TWA	10 mg/m3		

2,2-Bis-(4-hydroxyphenyl)-propane (4,4'-Isopropylidenediphenol)	80-05-7	EU ELV	TWA	2 mg/m3		Indicative
General limiting value of dust		EH40 WEL	TWA	10 mg/m3		inhalable fraction
General limiting value of dust		EH40 WEL	TWA	4 mg/m3		alveolar fraction

**8.2 Exposure controls****Respiratory protection**

In case of dust formation use respiratory equipment with filter type particle filter P1 according to EN 143.

**Hand protection**

Suitable materials for safety gloves; EN 374:

Polyvinyl chloride - PVC ( $\geq 0.5$  mm)

Contaminated and/or damaged gloves must be changed.

**Eye protection**

Wear eye/face protection.

**Skin and body protection**

Wear suitable protective clothing.

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

Appearance:	granular
Colour:	different according to colouration
Odour:	odourless
Odour Threshold:	not established
pH:	not applicable
Softening point:	130 - 160 °C
Flash point:	not established
Evaporation rate:	not established
Flammability:	not established
Burning number:	not established
Upper/lower flammability or explosive limits:	not applicable
Vapour pressure:	not applicable
Vapour density:	not established
Density:	ca. 1.2 - 1.4 g/cm <sup>3</sup>
Bulk density:	600 - 700 kg/m <sup>3</sup>
Water solubility:	practically insoluble
Surface tension:	not established
Partition coefficient (n-octanol/water):	not established
Auto-ignition temperature:	not applicable
Ignition temperature:	> 450 °C
Decomposition temperature:	$\geq 380$ °C
Viscosity, dynamic:	not applicable
Explosive properties:	not established
Dust explosion class:	not established
Oxidising properties:	not established

**9.2 Other information**

The indicated values do not necessarily correspond to the product specification. Please refer to the product information sheet or the technical information sheet for specification data.

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

This information is not available.

**10.2 Chemical stability**

Fumes evolved by overheating during improperly processing or by burning may be injurious to health.

**10.3 Possibility of hazardous reactions**

No hazardous reactions observed.

**10.4 Conditions to avoid**

This information is not available.

**10.5 Incompatible materials**

This information is not available.

**10.6 Hazardous decomposition products**

Caused by smouldering and incomplete combustion toxic fumes mainly consisting of CO and CO<sub>2</sub> may be developed.

Under recommended processing conditions small amounts of emissions may occur.

The regulations for the substances listed below must be observed when processing this product, particularly if processing takes place at elevated temperatures.

phenol

Index-No. 604-001-00-2

CAS-No.: 108-95-2

Classification (1272/2008/CE): Acute Tox. 3 Oral H301 Acute Tox. 3 Inhalative H331 Acute Tox. 3 Dermal H311 Skin Corr. 1B H314 Eye Dam. 1 H318 Muta. 2 H341 STOT RE 2 H373 Aquatic Chronic 2 H411

chlorobenzene

Index-No. 602-033-00-1

CAS-No.: 108-90-7

Classification (1272/2008/CE): Flam. Liq. 3 H226 Acute Tox. 4 Inhalative H332 Skin Irrit. 2 H315 Aquatic Chronic 2 H411

4-tert-butylphenol

Index-No. 604-090-00-8

CAS-No.: 98-54-4

Classification (1272/2008/CE): Skin Irrit. 2 H315 Eye Dam. 1 H318 Repr. 2 H361f Aquatic Chronic 1 H410

2,2-Bis-(4-hydroxyphenyl)-propane (4,4'-Isopropylidenediphenol)

CAS-No.: 80-05-7

Classification (1272/2008/CE): Repr. 1B H360F STOT SE 3 Inhalative H335 Eye Dam. 1 H318 Skin Sens. 1 H317 Aquatic Chronic 2 H411

**SECTION 11: Toxicological information**

Toxicological studies on the product are not yet available.

**11.1 Information on toxicological effects****Acute toxicity, oral**

No data available.

**Acute toxicity, dermal**

No data available.

**Acute toxicity, inhalation**

No data available.

**Primary skin irritation**

No data available.

**Primary mucosae irritation**

No data available.

**Sensitisation**

No data available.

**Subacute, subchronic and prolonged toxicity**

No data available.

**Carcinogenicity**

No data available.

**Reproductive toxicity/Fertility**

No data available.

**Reproductive toxicity/Teratogenicity**

No data available.

**Genotoxicity in vitro**

No data available.

**Genotoxicity in vivo**

No data available.

**STOT evaluation – one-time exposure**

No data available.

**STOT evaluation – repeated exposure**

No data available.

**Aspiration toxicity**

No data available.

**Additional information**

According to our experience and information the product has no harmful effects on health if properly handled.

**SECTION 12: Ecological information**

Ecotoxicological studies of the product are not available.

Do not allow to escape into waterways, wastewater or soil.

**12.1 Toxicity**

No data available.

**12.2 Persistence and degradability**

No data available.

**12.3 Bioaccumulative potential**

No data available.

**12.4 Mobility in soil**

No data available.

**12.5 Results of PBT and vPvB assessment**

No data available.

**12.6 Other adverse effects**

The product is practically insoluble in water. In view of its consistency and insolubility in water, no ecological problems are to be expected if the product is properly handled. The product is not readily biodegradable.

**SECTION 13: Disposal considerations**

Dispose in accordance with applicable international, national and local laws, ordinances and statutes.

For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

**13.1 Waste treatment methods**

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and environmental regulations.

The product is suitable for mechanical recycling. After appropriate treatment it can be remelted and reprocessed into new moulded articles. Mechanical recycling is only possible if the material has been selectively retrieved and carefully segregated according to type.

**SECTION 14: Transport information****ADR/RID**

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

**ADN**

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

Dangerous goods classification for inland waterways tanker by request only.

**IATA**

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Environmental hazards	:	Not dangerous goods

**IMDG**

14.1 UN number	:	Not dangerous goods
14.2 UN proper shipping name	:	Not dangerous goods
14.3 Transport hazard class(es)	:	Not dangerous goods
14.4 Packing group	:	Not dangerous goods
14.5 Marine pollutant	:	Not dangerous goods

**14.6 Special precautions for user**

See section 6 - 8.

Additional information : Not dangerous cargo. Keep dry.

**14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

## SECTION 15: Regulatory information

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

#### Water contaminating class (Germany)

nw not water endangering

Identification number according to AwSV: 766

### 15.2 Chemical Safety Assessment

A Chemical Safety Assessment has not been conducted for this substance / mixture resp. its components.

## SECTION 16: Other information

**Full text of the hazard statements of the CLP classification (1272/2008/CE) referred to under sections 2, 3 and 10.**

H226	Flammable liquid and vapour.
H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H360F	May damage fertility.
H361f	Suspected of damaging fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

The safety data sheet is also valid for corresponding MAS... types.

**Abbreviations and acronyms**

ADN	Accord européen relatif au transport international des marchandises Dangereuses par voie de Navigation intérieure
ADR	Accord européen relatif au transport international des marchandises Dangereuses par Route
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials (US)
ATE	Acute Toxic Estimate
AwSv	Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen
BCF	Bioconcentration Factor
CAS	Chemical Abstract Service
CLP	Regulation on Classification, Labelling and Packaging of Substances and Mixtures
CMR	Cancerogenic Mutagenic Reprotoxic
DIN	Deutsches Institut für Normung
DNEL	Derived No-Effect Level
EC...	Effect Concentration ... %
EWC	European Waste Catalogue
IATA	International Air Transport Association
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LOAEL	Lowest Observable Adverse Effect Level
LC...	Lethal Concentration, ...%
LD...	Lethal Dose, ...%
MARPOL	International Convention for the Prevention of Pollution From Ships
NOAEL	No Observed Adverse Effect Level
NOEL/NOEC	No Observed Effect Level/Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	persistent, bioaccumulative, toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire de marchandises Dangereuses
STOT	Specific Target Organ Toxicity
TRGS	Technische Regeln für Gefahrstoffe
vPvB	very Persistent, very Bioaccumulative
WGK	Wassergefährdungsklasse

**Further information**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a 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.