according to Regulation (EC) No. 1907/2006



Clyrell RC213M

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

1.1 Product identifier

Trade name : Clyrell RC213M

Synonyms : 1-Butene, polymer with propene, 1-Butene-propene

copolymer

Substance name : 1-Butene, polymer with 1-propene

Substance No. : 29160-13-2

Chemical characterization : Polybutene copolymer

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

Identified uses : Manufacture of plastic articles by injection molding, extrusion

or other conversion process.

Prohibited uses : FDA Class III medical devices; European class III medical

devices; Health Canada class IV Medical Devices;

Applications involving permanent implantation into the body;

Life-sustaining medical applications

1.3 Details of the supplier of the safety data sheet

Company Registration number Telephone

Basell Sales & Marketing Company B.V. NA 31 (0) 10 275 55 00

Delftseplein 27E 3013 AA Rotterdam

Netherlands

E-mail address : product.safety@lyb.com

Responsible/issuing person

1.4 Emergency telephone number

Basell Sales & Marketing Company B.V. +32 3 575 1235

Poison Center:

Gesundheid Österreich GMBH AT: +43 1 406 43 43 24 hours all days

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

according to Regulation (EC) No. 1907/2006



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2.2 Label elements

Labeling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

May form explosible dust-air mixture if small particles are generated during further processing, handling, or by other means.

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : 1-Butene, polymer with 1-propene

CAS-No. : 29160-13-2

Components

Chemical name	CAS-No. EC-No.	Concentration (% w/w)	M-Factor, SCL, ATE
1-Butene, polymer with 1- propene	29160-13-2	> 99.5	

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice : Take proper precautions to ensure your own health and safety

before attempting rescue and providing first aid.

If inhaled : Remove person to fresh air. If signs/symptoms continue, get

medical attention.

In case of excessive inhalation of fumes that may be generated during heating of this material, move the person to fresh

ur.

Obtain medical attention.

Keep person warm, if necessary give Cardio-Pulmonary Re-

suscitation (CPR)

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In case of skin contact : If molten material contacts the skin, immediately flush with

large amounts of water to cool the affected tissue and poly-

mer.

Do not attempt to peel polymer from skin as this will remove

the skin.

Obtain immediate emergency medical attention if burn is deep

or extensive.

In case of eye contact : Flush eyes thoroughly with water for several minutes and seek

medical attention if discomfort persists.

In case of eye contact with molten polymer:

Continuously flush eye(s) with cool running water for at least

15 minutes.

Beyond flushing, DO NOT attempt to remove the material

adherent to the eye(s).

Immediately seek medical attention.

If swallowed : Adverse health effects due to ingestion are not anticipated.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : Inhalation of process fumes and vapors may cause soreness

in the nose and throat and coughing.

Risks : Dust contact with the eyes can lead to mechanical irritation.

Molten polymer may cause thermal burns.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treatment of overexposure should be directed at the control of

symptoms and the clinical condition of the patient.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : SMALL FIRE:

Use dry chemical, CO2, or water spray.

LARGE FIRES:

Use water spray hose nozzles from a safe location.

Unsuitable extinguishing

media

None known.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire

fighting

: Keep away from heat and sources of ignition.

In case of fire hazardous decomposition products may be

produced such as:

Carbon monoxide, carbon dioxide and unburned hydrocar-

bons (smoke).

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5.3 Advice for firefighters

Special protective equipment:

for fire-fighters

Wear approved positive pressure self-contained breathing

apparatus and firefighter protective clothing.

Further information : Combustible particulate solid, will decompose under fire con-

ditions.

Calorific Value: 8000 - 11000 kcal/kg

Fight fire from safe distance with hose lines or monitor noz-

zles.

Heat from fire may melt, decompose polymer, and generate

flammable vapors.

Move containers from fire area if it can be done without risk. Evacuate immediately in the event of opening of storage container pressure relief devices or discoloration of container.

Always stay away from tanks engulfed in fire.

Do not attempt to get on top of storage containers involved in

fire.

Cool storage containers with large volumes of water even

after fire is out.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Equip responders with proper protection.

Creates dangerous slipping hazard on any hard smooth sur-

face.

Equip emergency responders with proper personal protective

equipment (PPE)
Avoid generating dust.

Avoid dispersal of dust in the air (i.e., clearing dust surfaces

with compressed air).

Potential combustible dust hazard.

Polymer particles create slipping hazard on hard smooth sur-

faces.

6.2 Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up : On land, sweep/shovel into suitable disposal containers or

vacuum using equipment which avoids ignition risk.
On water, material is insoluble; collect and contain as any

solid.

All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

engineering practices. Reclaim where possible.

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6.4 Reference to other sections

For disposal considerations see section 13., For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

Material is in a pellet form.

If converted to small particles during further processing, handling, or by other means, may form combustible dust concentrations in air.

Avoid dust accumulation in enclosed space.

Avoid generating dust; fine dust suspended in air and in the presence of an ignition source is a potential dust explosion hazard.

Static discharge (spark), or other ignition sources, in high dust environments may ignite the dust and result in a dust explosion

Electrostatic charge may build during conveying or handling. Equipment handling polymer should be conductive and grounded (earthed) and bonded.

Metal containers involved in the transfer of this material should be grounded and bonded.

All electrical equipment should conform to applicable electric codes and regulatory requirements for areas handling combustible dusts.

After handling, always wash hands thoroughly with soap and water.

When bringing the material to processing temperatures vapors may develop may condense in the exhaust ventilation. See section 10.

Hygiene measures

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use. Use good personal hygiene practices. Wash hands before eating, drinking, smoking, or using toilet facilities. Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in a dry location. Use good housekeeping practices during storage, transferring and handling. Process enclosures and adequate ventilation should be used to avoid excessive dust accumulation. Store away from excessive heat and away from strong oxidizing agents. Keep container closed to prevent contamination. Take measures to prevent the build up of electrostatic charge.

7.3 Specific end use(s)

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Specific use(s) : See Section 1.2.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Non-specified (in- ert or nuisance) dust	Not As- signed	TWA	10 mg/m3 (inhalable)	US (ACGIH)
		TWA	3 mg/m3 (respirable)	US (ACGIH)

8.2 Exposure controls

Engineering measures

Follow the recommendations in international standard NFPA 654 (as amended and adopted) for equipment used to handle this product.

Engineering controls, i.e. enclosed systems, should be used whenever feasible to maintain exposures below acceptable criteria. When such controls are not feasible, or sufficient to achieve full conformance, other engineering controls such as local exhaust ventilation should be used. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment).

Personal protective equipment

Eye protection : Dust service goggles should be worn to prevent mechanical

injury or other irritation to eyes due to airborne particles

which may result from handling this product.

Hand protection

Remarks : Wear gloves that provide thermal protection where there is a

potential for contact with heated material.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Use process enclosures, local exhaust ventilation, or other

engineering controls to keep airborne levels below recom-

mended exposure limits.

When workers are facing concentrations above the exposure

limit they must use appropriate certified respirators.
Use appropriate respiratory protection where atmosphere

exceeds recommended limits.

Where workers could be exposed to dust concentrations above the exposure limit they must use appropriate certified

respirators.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state : pellets

Color : Translucent to white

Odor : Slight.

Odor Threshold : No value available.

Melting point/range : 50 - 170 °C

Boiling point/boiling range : Not applicable.

Flammability : May form combustible dust concentrations in air.

Polymer will burn but does not easily ignite.

Upper explosion limit / Upper

flammability limit

Not applicable.

Lower explosion limit / Lower

flammability limit

The minimum explosive concentration (MEC) for polymer dust

varies according to particle size distribution.

Flash point : No Data Available.

Decomposition temperature : Carbon monoxide, olefinic and paraffinic compounds, trace

amounts of organic acids, ketones, aldehydes and alcohols

may be formed.

pH : Not applicable.

Viscosity

Viscosity, dynamic : Not applicable.

Solubility(ies)

Water solubility : Insoluble.

Partition coefficient: n-

octanol/water

: No Data Available.

Vapor pressure : Not applicable.

Density : < 1 g/cm3

Relative vapor density : Not applicable.

9.2 Other information

Explosives : No Data Available.

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Oxidizing properties : Not considered an oxidizing agent.

Self-ignition : > 300 °C

Evaporation rate : Not applicable.

SECTION 10: Stability and reactivity

10.1 Reactivity

No known reactivity hazards.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : None known.

10.4 Conditions to avoid

Conditions to avoid : Avoid contact with strong oxidizers, excessive heat, sparks or

open flame.

10.5 Incompatible materials

Materials to avoid : Material may be softened by some hydrocarbons.

10.6 Hazardous decomposition products

Not expected to decompose under normal conditions.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Components:

1-Butene, polymer with 1-propene:

Acute oral toxicity : Assessment: The substance or mixture has no acute oral tox-

icity

Acute inhalation toxicity : Assessment: The substance or mixture has no acute inhala-

tion toxicity

Acute dermal toxicity : Assessment: The substance or mixture has no acute dermal

toxicity

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Skin corrosion/irritation

Components:

1-Butene, polymer with 1-propene:

Result : No skin irritation

Serious eye damage/eye irritation

Components:

1-Butene, polymer with 1-propene:

Remarks : Mechanical irritation is possible.

Respiratory or skin sensitization

Components:

1-Butene, polymer with 1-propene:

Result : Does not cause skin sensitization.

Result : Does not cause respiratory sensitization.

Germ cell mutagenicity

Components:

1-Butene, polymer with 1-propene:

Germ cell mutagenicity- As- : Based on available data, the classification criteria are not met.

sessment

Carcinogenicity

Components:

1-Butene, polymer with 1-propene:

Carcinogenicity - Assess- : No evidence of carcinogenicity in animal studies.

ment

Reproductive toxicity

Components:

1-Butene, polymer with 1-propene:

Reproductive toxicity - As- : Based on available data, the classification criteria are not met.

sessment

according to Regulation (EC) No. 1907/2006



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STOT-single exposure

Components:

1-Butene, polymer with 1-propene:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, single exposure.

STOT-repeated exposure

Components:

1-Butene, polymer with 1-propene:

Assessment : The substance or mixture is not classified as specific target

organ toxicant, repeated exposure.

Aspiration toxicity

Components:

1-Butene, polymer with 1-propene:

No aspiration toxicity classification

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Components:

1-Butene, polymer with 1-propene:

Toxicity to fish : Remarks: Aquatic toxicity is unlikely due to low solubility.

Toxicity to daphnia and other :

aquatic invertebrates

Remarks: No toxicity at the limit of solubility.

Toxicity to algae/aquatic

plants

Remarks: No toxicity at the limit of solubility.

Toxicity to microorganisms

Remarks: No toxicity at the limit of solubility.

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Toxicity to fish (Chronic tox-

icity)

Remarks: No toxicity at the limit of solubility.

Toxicity to daphnia and other :

aquatic invertebrates (Chron-

ic toxicity)

Remarks: No toxicity at the limit of solubility.

Ecotoxicology Assessment

Acute aquatic toxicity : Not classified

Chronic aquatic toxicity : Not classified

Toxicity Data on Soil : Not expected to adsorb on soil.

12.2 Persistence and degradability

Components:

1-Butene, polymer with 1-propene:

Biodegradability : Remarks: The polymer is too large to be bioavailable.

12.3 Bioaccumulative potential

Components:

1-Butene, polymer with 1-propene:

Bioaccumulation : Remarks: This material is not expected to bioaccumulate.

12.4 Mobility in soil

Components:

1-Butene, polymer with 1-propene:

Mobility : Remarks: no data available

12.5 Results of PBT and vPvB assessment

Product:

Assessment : 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.

Components:

1-Butene, polymer with 1-propene:

Assessment : 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

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0.1% or higher.

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components consid-

ered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at

levels of 0.1% or higher.

12.7 Other adverse effects

Product:

Additional ecological infor-

mation

No data available on this product. However, birds, fish and other wildlife may eat pellets which may obstruct their intesti-

nal tracts.

Components:

1-Butene, polymer with 1-propene:

Environmental fate and

pathways

This material is not volatile and insoluble in water.

Additional ecological infor-

mation

Ecotoxicity is expected to be minimal based on the low water

solubility of polymers.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : All recovered material should be packaged, labeled, trans-

ported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good

engineering practices. Reclaim where possible.

Recycle if possible.

SECTION 14: Transport information

14.1 UN number

Not regulated for transport

14.2 UN proper shipping name

Not regulated for transport

14.3 Transport hazard class(es)

according to Regulation (EC) No. 1907/2006



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Not regulated for transport

14.4 Packing group

Not regulated for transport

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

NMFC 156200

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

SECTION 15: Regulatory information

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

REACH Annex XVII

This product contains an ingredient listed in Annex XVII of the REACH Regulation 1907/2006/EC.

Component	CASRN	Remarks
Methanol	67-56-1	Use restricted. See item 69. Use restricted. See item 75.

Other international regulations

Global Inventory Status

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

Country/Region	Inventory	Status Description
Australia	AICS	Listed
Canada	DSL	Listed
China	IECSC	Listed
Europe	REACH	See Compliance Statement*

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Japan	ENCS	Listed
Korea	K REACH	Pre-registration period *
New Zealand	NZIoC	Listed
Philippines	PICCS	Listed
United Kingdom	UK REACH	See Compliance Statement*
United States of America	TSCA	Listed
Taiwan	TCSCA	Listed
Turkey	KKDIK	Pre-registration period *

^{*} If the product has been purchased domestically from the notifying/registering legal entity of the LyondellBasell group of companies. We confirm that all substances (in this preparation) have been registered in accordance with the deadlines set forth in the applicable regulation. During the "Pre-registration period", we confirm that all substances in this preparation have been pre-registered or, where required under the regulation, registered, and that we have the intention to proceed with their registration in accordance with the deadlines set forth in the regulation. For more information, please contact reach@lyondellbasell.com.

† For more information on the status of this material, please contact chemical control at global.chemical.control@lyondellbasell.com.

15.2 Chemical safety assessment

No information available.

SECTION 16: Other information

Full text of other abbreviations

US (ACGIH) : US (ACGIH)

US (ACGIH) / TWA : Time weighted average

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test popula-

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tion; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

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.

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