SAFETY DATA SHEET

ARLANXEO Performance Elastomers

Conforms to GB13690-2009, GB/T16483-2008、Globally Harmonized System of Classification & Labelling of Chemicals(GHS)

X_Butyl RB 301

04080297

Section 1. Chemical product and company identification

GHS product identifier : X_Butyl RB 301

Recommended use of the product and restrictions on use : crude product for the production of tires/technical rubber articles

Supplier/Manufacturer : ARLANXEO High Performance Elastomers (Changzhou) Co., Ltd.
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Section 2. Hazards identification

Classification of the substance or mixture according to GB 13690-2009 and GB 30000-2013

Emergency overview

Solid. [rubber bales]
Colourless to light yellow.
Odourless.

See Section 12 for environmental precautions.

Classification of the substance or mixture : Not classified.

GHS label elements

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Physical and chemical hazards : No known significant effects or critical hazards.

Health hazards : No known significant effects or critical hazards.

Environmental hazards : No known significant effects or critical hazards.

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Polymer

Other means of identification : Not available.

Product definition : Copolymer consisting of i-butene and isoprene (butyl rubber; IIR), CAS No.: 9010-85-9

CAS number/other identifiers

CAS number : Not applicable.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Get medical attention if irritation occurs.

Skin contact : Get medical attention if irritation develops.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Inhalation : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : No specific data.

Skin contact : No specific data.

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : No specific treatment.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : No specific fire or explosion hazard.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures : No special measures required.

Environmental precautions : No special measures required.

Methods and material for containment and cleaning up

Small spill : Take up mechanically.

Large spill : Take up mechanically.

Section 7. Handling and storage

Precautions for safe handling : Provided good ventilation and/or local exhaust systems are used, the Occupational Exposure Limit(s) stated in Chapter 8 should not be exceeded.

Avoid inhaling vapours. Avoid inhaling dust. Grease skin. Wash hands, forearms and face thoroughly after handling compounds and before eating, smoking and using the lavatory and at the end of the day. When using do not eat, drink or smoke.

Conditions for safe storage, including any incompatibilities : Store in a dry place.

Section 8. Exposure controls/personal protection

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.

Occupational exposure limits

Section 8. Exposure controls/personal protection

Ingredient name	Exposure limits
Hong Kong	
Isobutene	**ACGIH TLV (United States, 3/2016).** TWA: 250 ppm 8 hours.
1-Butene	**ACGIH TLV (United States, 3/2016).** TWA: 250 ppm 8 hours.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Appropriate engineering controls : Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye protection : Protective goggles with side shield or tightly fitting protective goggles

Skin protection

Hand protection : Protective gloves of leather, contaminated or damaged gloves should be replaced.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Skin covering working clothes; wear dust-proof overalls if large quantities of dust are generated.

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

Section 9. Physical and chemical properties

Appearance

Physical state : Solid. [rubber bales]

Colour : Colourless to light yellow.

Odour : Odourless.

Odour threshold : Not available.

pH : Not available.

Melting point : Not available.

Boiling point : Not available.

Flash point : Open cup: >300°C (>572°F) [Cleveland (ASTM D-92)]

Section 9. Physical and chemical properties

Burning time	:	Not available.
Burning rate	:	Not available.
Evaporation rate	:	Not available.
Flammability (solid, gas)	:	Not available.
Lower and upper explosive (flammable) limits	:	Not available.
Vapour density	:	Not available.
Density	:	0,92 kg/L (20℃)
Relative density	:	Not available.
Solubility	:	Insoluble in the following materials: cold water
Ignition temperature	:	>300°C
Auto-ignition temperature	:	Not available.
Decomposition temperature	:	>200°C (>392°F)
SADT	:	Not available.
Viscosity	:	Not available.

Section 10. Stability and reactivity

Reactivity	:	No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	:	The product is stable.
Possibility of hazardous reactions	:	Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	:	In the case of dusty organic products the possibility of a dust explosion should always be considered.
Incompatible materials	:	No specific data.
Hazardous decomposition products	:	Caused by smouldering and incomplete combustion toxic fumes mainly consisting of CO and CO_2 may be developed. Degradation products of the polymers and their additives may also be formed.

Section 11. Toxicological information

Under the recommended processing conditions small amounts of emitted substance (e.g. residual monomers, residual solvents, decomposition products) may be discharged. According to our experience and information the product has no harmful effects on health if properly handled.

Information on toxicological effects

Acute toxicity	:	Not available.
Irritation/Corrosion	:	Not available.
Sensitisation	:	Not available.
Mutagenicity	:	Not available.
Carcinogenicity	:	Not available.
Reproductive toxicity	:	Not available.
Teratogenicity	:	Not available.

Section 11. Toxicological information

Specific target organ toxicity (single exposure) : Not available.

Specific target organ toxicity (repeated exposure) : Not available.

Aspiration hazard : Not available.

Information on likely routes of exposure : Routes of entry anticipated: Dermal, Inhalation.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.

Skin contact : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : No specific data.

Ingestion : No specific data.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Section 12. Ecological information

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. This product is not readily biodegradable.

Toxicity

Not available.

Persistence/degradability

Not available.

Bioaccumulative potential

Not available.

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Section 12. Ecological information

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	China	IMDG	IATA
UN number	-	-	-
UN proper shipping name	-		
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No	No	No
Special precautions for user	Not regulated.	Not regulated.	Not regulated.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Hazard notes:

Not dangerous cargo.
Keep separated from foodstuffs.

Transportation Notes

- Appropriate & sufficient fire-fighting facilities and spill emergency handling apparatus should be equipped with the transport vehicles.
In case of products with explosive, flammable, self-reactive, pyrophoric, self-heating and oxidizing properties:
-Tank cars used in transport should be equipped with a grounding chain; a porous separator plate may be provided in the tank car to reduce static electricity shocks.
– The exhaust pipes of vehicles used for shipping this product must be equipped with fire retardant

Section 14. Transport information

devices. The use of mechanical equipment or tools prone to sparking is prohibited.
–Protect against exposure to sun, rain and high temperatures during transit; in summer, transport should ideally be in the morning or evening.
– Keep away from fire, heat and high temperature zones during stopovers.
–When transporting over public roads, select routes compliant with regulations and do not stop over in residential or densely populated areas.

Section 15. Regulatory information

Inventory of Hazardous Chemicals

None of the components are listed.

Following regulations were referred : 1. Regulations of the Safety Administration of Dangerous Chemicals
2. Rules for classification and labeling of chemicals (30000.2~29)
3. Lists of dangerous goods （GB12268）
4. Safety Data Sheet for Chemical Products -Content and Order of Sections （GB/T16483-2008）
5. Classification and Code of Dangerous Goods（GB6944）
6. List of hazardous waste (2008.08.01)
7. GA57-92 Levels, classification and code of hypertoxic substance
8. Occupational exposure limits for hazardous agents in the workplace Part 1: Chemical hazardous agents GBZ 2.1-2007）

Section 16. Other information

History

Date of issue/Date of revision : 2017-01-26

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Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations

Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet is to describe the products in terms of their safety requirements. The above details do not imply any guarantee concerning composition, properties or performance.