



SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: **BUTYL ACRYLATE** **Page: 1 / 9**

SDS No.: 001192-001 (Version 3.1)

Date 30.01.2015 (Cancel and replace : 12.07.2012)

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the product

Substance name:

REACH Registration Name: butyl acrylate
REACH Registration Number: 01-2119453155-43-0002

EC Nr: 205-480-7
CAS-No.: 141-32-2

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

Use of the Substance/Mixture :

Sector of use :	Product category :
Polymerization at downstream user sites SU 8,9: Manufacture of bulk, large scale substances (including petroleum products); manufacture of fine chemicals	PC19: Intermediate, PC32: Polymer preparations and compounds
Use as an intermediate at downstream user site SU 8,9: Manufacture of bulk, large scale substances (including petroleum products); manufacture of fine chemicals	PC19: Intermediate

1.3. Details of the supplier of the safety data sheet

Supplier	Arkema Acrylics 420 rue d'Estienne d'Orves 92705 Colombes Cedex, FRANCE Telephone: +33 (0)1 49 00 80 80 Telefax: +33 (0)1 49 00 83 96 http://www.arkema.com
E-mail address	pars-drp-fds@arkema.com

E-mail address : Exposure scenario arkema-acrylics-reach-uses@arkema.com

1.4. Emergency telephone number

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008):

Flammable liquids, 3, H226
Inhalation: Acute toxicity, 4, H332
Skin irritation, 2, H315
Eye irritation, 2, H319
Skin sensitisation, 1, H317
Specific target organ toxicity - single exposure, 3, Respiratory Tract, H335
Chronic aquatic toxicity, 3, H412

Classification (Directive 67/548/EEC):

R10
Xn; R20
Xi; R36/37/38
R43

Additional information:

For the full text of the R, H, EUH-phrases mentioned in this Section, see Section 16.

2.2. Label elements

Label elements (REGULATION (EC) No 1272/2008):

Hazardous components which must be listed on the label:
No. in ANNEXE : 607-062-00-3

n-butyl acrylate

Hazard pictograms:



Signal word: **Warning**

Hazard statements:

H226 : Flammable liquid and vapour.
H332 : Harmful if inhaled.
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H317 : May cause an allergic skin reaction.
H335 : May cause respiratory irritation.
H412 : Harmful to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
P210 : Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 : Avoid breathing gas/mist/vapours/spray.
P280 : Wear protective gloves/protective clothing/eye protection/face protection.
P273 : Avoid release to the environment.

Response:

P303 + P361 + P353 : IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P312 : Call a POISON CENTER or doctor/ physician if you feel unwell.

Storage:

P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Potential health effects:

May cause sensitisation by skin contact.
Irritation: Irritating to eyes, respiratory system and skin.

Environmental Effects:

Toxic to aquatic fauna and flora. Readily biodegradable Slightly bioaccumulable.

Physical and chemical hazards:

Flammable. Polymerization is exothermic and can degenerate into an uncontrolled reaction.
Decomposition products: See chapter 10

Other:

Results of PBT and vPvB assessment : According to REACH regulation, annex XIII, the substance does not meet PBT and vPvB criteria.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Chemical Name ¹	EC-No.	CAS-No.	Concentration	Classification Directive 67/548/EEC	Classification REGULATION (EC) No 1272/2008
Butyl acrylate (N° ANNEX: 607-062-00-3)	205-480-7	141-32-2	> 99,5 %	R10 Xn; R20 Xi; R36/37/38 R43	Flam. Liq.3; H226 Acute Tox.4 (Inhalation); H332 Skin Irrit.2; H315 Eye Irrit.2; H319 Skin Sens.1; H317 STOT SE3; H335 Aquatic Chronic3; H412

¹: See chapter 14 for Proper Shipping Name

4. FIRST AID MEASURES

4.1. & 4.2. Description of necessary first-aid measures & Most important symptoms/effects, acute and delayed:

General advice:

Take off immediately all contaminated clothing.

Inhalation:

Move to fresh air. Oxygen or artificial respiration if needed. In case of persistent problems : Consult a physician.

Skin contact:

Wash immediately, abundantly and thoroughly with soap and water.

Eye contact:

Wash well-open eyes immediately, abundantly and thoroughly with water. Consult an ophthalmologist.

Ingestion:

In case of problems : Consult a doctor.

Protection of first-aiders:

In case of insufficient ventilation, wear suitable respiratory equipment. Protective suit.

4.3. Indication of immediate medical attention and special treatment needed, if necessary : No data available.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, Foam, Carbon dioxide (CO2), Dry powder

5.2. Special hazards arising from the substance or mixture:

Flammable liquid, Polymerization is exothermic and can degenerate into an uncontrolled reaction.

5.3. Advice for firefighters:

Specific methods:

Remove all sources of ignition. Cool containers/tanks with water spray. Hose down gases, fumes and/or dust with water.

Special protective actions for fire-fighters:

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Prohibit all sources of sparks and ignition - Do not smoke. Keep people away from and upwind of spill/leak. Prohibit contact with skin and eyes and inhalation of vapours. Use personal protective equipment.

6.2. Environmental precautions:

Do not release into the environment. Do not let product enter drains. Dam up with sand or inert earth (do not use combustible materials).

6.3. Methods and materials for containment and cleaning up:

Recovery:

Pump into a labelled inert emergency tank. Absorb the remainder with an inert absorbent material. Rinse with water. Recover waste water for processing later.

Elimination:

Destroy the product by incineration (in accordance with local and national regulations).

6.4. Reference to other sections: None.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Technical measures/Precautions:

Storage and handling precautions applicable to products: Liquid. Flammable. Harmful. Irritant. With irritating vapours. Sensitizing. Provide appropriate exhaust ventilation at machinery. Do not use activated carbons to capture odours of acrylates. Provide showers, eye-baths. Provide water supplies near the point of use. Provide self-contained breathing apparatus nearby.

Safe handling advice:

Transfer by pump or atmospheric pressure containing between 5 and 7% of oxygen. Never bring into contact with an atmosphere made of lifeless gas only. Take precautionary measures against static discharges. Keep well away from naked flames. Use only explosion-proof equipment. Provide water supplies near the point of use.

Hygiene measures:

Prohibit contact with skin and eyes and inhalation of vapours. When using do not eat, drink or smoke.
Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities:

Maintain in contact with an atmosphere containing between 5 and 7% of oxygen. Keep away from heat and sources of ignition. Do not smoke. Never use a system in contact with inert atmospheres for storage. Protect against light. Avoid long storage period. Inhibitor levels should be maintained. Keep in a well-ventilated place. Provide electrical earthing of equipment and electrical equipment usable in explosive atmospheres. Provide a catch-tank in a bunded area. Monitor the product clarity. Continuously monitor product temperature.

Storage temperature: < 30 °C

Incompatible products:

Free radical generators Peroxides Strong oxidizing agents Strong acids strong bases Activated carbons (explosive reaction)

Packaging material:

Recommended: Stainless steel, Ordinary steel, Aluminium, High density polyethylene (HDPE), Polypropylene, Polytetrafluoroethylene (PTFE)

To be avoided: Rubber, Unprotected steel

7.3. Specific end use(s): None.**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****8.1. Control parameters:****Exposure Limit Values****Butyl acrylate**

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
EU ELV	12 2009	TWA	2	11	Indicative value
EU ELV	12 2009	STEL	10	53	Indicative value
ACGIH (US)	02 2012	TWA	2	–	–

Derived No Effect Level (DNEL):

End Use	Inhalation	Ingestion	Skin contact
Workers	11 mg/m3 (LT, LE)		0,28 mg/cm2 (ST, LE)

LE : Local effects, SE : Systemic effects, LT : Long term, ST : Short term

Predicted No Effect Concentration:

Compartment:	Value:
Water	2,72 µg/l
Marine water	0,272 µg/l
Water (Intermittent release)	11 µg/l
Effects on waste water treatment plants	3,5 mg/l
Fresh water sediment	0,0338 mg/kg dw
Marine sediment	0,00338 mg/kg dw
Soil	1 mg/kg dw

8.2. Exposure controls:

General protective measures: Ensure sufficient air exchange and/or exhaust in work areas

Personal protective equipment:

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment.

Hand protection: Neoprene gloves

Protective gloves complying with EN 374.

Eye/face protection: Safety glasses, Face-shield

Skin and body protection: Protective suit, Boots

Environmental exposure controls: See chapter 6

9. PHYSICAL AND CHEMICAL PROPERTIES**9.1. Information on basic physical and chemical properties**

Appearance:

Physical state (20°C):	liquid
Colour:	colourless
Odour:	like fruit
Olfactory threshold:	No data available.
pH:	No data available.
Melting point/range :	-64,6 °C
Boiling point/boiling range :	147 °C (Pressure 1.013 hPa)
Flash point:	closed cup: 37 °C (Standard NF M 07 036 (DIN 51755))
Evaporation rate:	No data available.
Flammability (solid, gas):	
Lower flammable limit :	1,5 %(V)
Upper flammable limit :	7,8 %(V)
Vapour pressure:	5 hPa , at 22,2 °C
Vapour density:	5,3 kg/m3 , at 20 °C
Relative vapour density:	4,4 Reference substance: Air=1
Density:	898 kg/m3 , at 20 °C
Relative density (Water=1):	0,9 at 20 °C
Water solubility:	1,7 g/l at 20 °C
Partition coefficient: n-octanol/water:	log Kow : 2,38 , at 25 °C (OECD Test Guideline 107)
Auto-ignition temperature:	292 °C at 1.013 hPa
Decomposition temperature:	No data available.
Viscosity, dynamic:	0,88 mPa.s , at 20 °C
Explosive properties:	
Explosivity:	Not relevant (due to the chemical structure)
Oxidizing properties:	Not relevant (due to the chemical structure)

9.2. Other data:

Solubility in other solvents:	Soluble in most organic solvents
Molecular weight:	128,2 g/mol

10. STABILITY AND REACTIVITY

10.1. & 10.2. Reactivity & Chemical stability:

Presence of a polymerization inhibitor: p-Methoxyphenol (Hydroquinone monomethyl Ether) or hydroquinone, The product is stable if inhibitor concentration is maintained at : 15 mg/kg, Control free oxygen level : free oxygen is essential to stabilize the product.

10.3. Possibility of hazardous reactions:

Polymerization is exothermic and can degenerate into an uncontrolled reaction.

10.4. Conditions to avoid:

Protect from light. Keep away from heat and sources of ignition.
Temperatures above 30 °C

10.5. Incompatible materials to avoid:

Free radical generators, Peroxides, Strong oxidizing agents, Strong acids and strong bases and activated carbons (explosive reaction)

10.6. Hazardous decomposition products:

Thermal decomposition giving toxic products;, Carbon oxides (by combustion)

11. TOXICOLOGICAL INFORMATION

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

11.1. Information on toxicological effects:

Acute toxicity:

Inhalation:	Harmful by inhalation.
• In animals :	LC50/4 h/Rat: 10,3 mg/l (Method: OECD Test Guideline 403) (vapour)
Ingestion:	Slightly harmful by ingestion

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• In animals : LD50/Rat: 3.143 mg/kg (Method: OECD Test Guideline 401)

Dermal:
• In animals : Slightly harmful in contact with skin
LD50/Rabbit: 2.000 - 3.024 mg/kg

Local effects (Corrosion / Irritation / Serious eye damage):

Skin contact: Irritating to skin.
• In animals : Skin irritation (after occlusive contact, Rabbit, Exposure time: 24 h)

Eye contact: Irritating to eyes.
• In animals : Eye irritation (Draize Test, Rabbit)

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: Weak skin sensitizer
• In man : Skin allergy was observed., Possible cross sensitization with other acrylates and methacrylates
• In animals : Weak sensitizing effects by skin contact. (Method : OECD Test Guideline 429 LLNA: Local Lymph Node Assay, Mouse)

CMR effects :

Mutagenicity: According to available experimental data: Overall not genotoxic

In vitro

Inactive in genotoxic in vitro tests
In vitro gene mutation study in bacteria: (Method: OECD Test Guideline 471)
Tests for chromosome aberrations in vitro on mammalian cells: (Method: OECD Test Guideline 473)

In vivo

Chromosome aberration test in vivo: Inactive (Method: OECD Test Guideline 475)

Carcinogenicity: According to available experimental data: Absence of carcinogenic effects

• In animals : Absence of carcinogenic effects
(Rat, 2 years, By inhalation)
(Mouse, lifetime, dermal route)

Reproductive toxicity:

Fertility: May be considered as comparable to a similar product for which experimental results are:
Absence of toxic effects on fertility

METHYL ACRYLATE :

• In animals : Two-generation study: No toxic effects for reproduction
NOAEL (Parental toxicity): 18 mg/m³
NOAEL (Fertility): 269 mg/m³
(Method: OECD Test Guideline 416, Rat, By inhalation)

Foetal development:

• In animals : According to available experimental data: No teratogenic effects
Exposure during pregnancy
(Method: OECD Test Guideline 414, Rat, By inhalation)
Toxic effects for foetal development at toxic maternal doses, No teratogenic effects
NOAEL (Developmental Toxicity): 0,13 mg/l
NOAEL (Maternal Toxicity): 0,13 mg/l
Exposure during pregnancy: (Results obtained on a similar product).
(Method: OECD Test Guideline 414, Rabbit, By inhalation)
Absence of toxic effects for foetal development, No teratogenic effects
NOAEL (Developmental Toxicity): 0,15 mg/l
NOAEL (Maternal Toxicity): 0,05 mg/l

Specific target organ toxicity :

Single exposure :

Inhalation: Irritating to respiratory system.
• In animals : Irritating to respiratory system. , Decrease of respiratory frequency by 50 %, Mouse (vapour, 1,78 mg/l)

Repeated exposure:

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
By inhalation: Atrophy of olfactory epithelium, NOAEL= 0,11 mg/l (Rat, 90 Days)
Maximum concentration with no systemic toxic effect
NOAEL= 0,57 mg/l
drinking water: NOAEL= 84 mg/kg (Rat, 90 Days)

Aspiration hazard:

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment: All available and relevant data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

Acute aquatic toxicity : Toxic to aquatic life.
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

12.1. Acute toxicity :

Fish:	Toxic to fish. LC50, 96 h (Cyprinus carpio) : 2,1 mg/l (Method: OECD Test Guideline 203)
Aquatic invertebrates:	Toxic to daphnia. EC50, 48 h (Daphnia magna (Water flea)) : 8,2 mg/l (Method: OECD Test Guideline 202)
Aquatic plants:	Toxic to algae. EC50, 72 h (Pseudokirchneriella subcapitata (microalgae)) : 2,65 mg/l (Method: OECD Test Guideline 201, Growth inhibition)
Microorganisms:	EC0, 3 h (Activated sludge) : > 150 mg/l

Aquatic toxicity / Long term toxicity:

Aquatic invertebrates:	NOEC, 21 d (Daphnia magna (Water flea)) : 0,136 mg/l (Method: OECD Test Guideline 211, reproduction)
Aquatic plants:	NOEC, 96 h (Pseudokirchneriella subcapitata (microalgae)) : < 1,8 mg/l (Method: OECD Test Guideline 201, Growth inhibition)

Non aquatic toxicity / Acute toxicity :

Toxicity to soil dwelling organisms:	EC50, 28 d (Microorganisms) : > 1.000 mg/kg (Soil dw) (Method: OECD Test Guideline 217) (Results obtained on a similar product).
Earth dwelling non-mammal species:	LC50, 18 h (Agelaius phoeniceus) : > 103 mg/kg (Acute oral toxicity)

12.2. Persistence and degradability :

Stability in water:	Half-life: 243 min at 25 °C and pH 11 Half-life: 1.100 Days at 25 °C and pH 7 Half-life: 2.800 Days at 25 °C and pH 3
Biodegradation (In water):	Readily biodegradable Readily biodegradable: 80 - 90 % after 28 d (Method: OECD Test Guideline 310)

12.3. Bioaccumulative potential :

Bioaccumulation:	Slightly bioaccumulable. Partition coefficient: n-octanol/water: log Kow : 2,38 , at 25 °C (Method: OECD Test Guideline 107)
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12.4. Mobility in soil - Distribution among environmental compartments:

Distribution among environmental compartments :	Water: 5,2 % Air: 94,6 % (Method: Calculation according Mackay, Level I)
Vapor pressure:	5 hPa, 22,2 °C
Absorption / desorption:	Slight adsorption log Koc: 1,6 - 2,2 (Method: measured)

12.5. Results of PBT and vPvB assessment:

According to REACH regulation, annex XIII, the substance does not meet PBT and vPvB criteria.

12.6. Other adverse effects: None known.**13. DISPOSAL CONSIDERATIONS****13.1. Waste treatment:**

Disposal of product: Destroy the product by incineration (in accordance with local and national regulations).

Disposal of packaging: Steam clean packaging. Destroy packaging by incineration at an approved waste disposal site. In accordance with local and national regulations.

14. TRANSPORT INFORMATION

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product Name: Butyl acrylate

Ship type: 2

Pollution category: Y

Regulation	UN number	Proper shipping name	Class	Label	PG	Environmentally hazardous	Other information
ADR	2348	BUTYL ACRYLATES, STABILIZED	3	3	III	no	
ADN	2348	BUTYL ACRYLATES, STABILIZED	3	3	III	no	
RID	2348	BUTYL ACRYLATES, STABILIZED	3	3	III	no	
IATA Cargo	2348	Butyl acrylates, stabilized	3	3	III	no	
IATA Passenger	2348	Butyl acrylates, stabilized	3	3	III	no	
IMDG	2348	BUTYL ACRYLATES, STABILIZED	3	3	III	no	EmS Number: F-E, S-D

15. REGULATORY INFORMATION

Safety data sheets: according to Regulation (EC) No. 1907/2006

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:**15.2. Chemical Safety Assessment:**

A Chemical Safety Assessment has been carried out for this substance.

INVENTORIES:

EINECS:	This substance has been registered according to Regulation (EC) No. 1907/2006 (REACH).
TSCA:	Conforms to
DSL:	All components of this product are on the Canadian DSL.
IECSC (CN):	Conforms to
ENCS (JP):	Conforms to
ISHL (JP):	Conforms to
KECI (KR):	Conforms to
PICCS (PH):	Conforms to
AICS:	Conforms to
NZIOC:	Conforms to

16. OTHER INFORMATION**Full text of R, H, EUH-phrases referred to under sections 2 and 3**

R10	Flammable.
R20	Harmful by inhalation.
R36/37/38	Irritating to eyes, respiratory system and skin.
R43	May cause sensitisation by skin contact.
H226	Flammable liquid and vapour.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.

Further information

When used in formulations, contact us for labelling.

Update:

Safety datasheet sections which have been updated:		Type:
1	Use of the Substance, Emergency telephone number	Additions
2	Classification and labelling, Amended according to REGULATION (UE) N°286/2011	Additions
3	Classification and labelling	Additions
7	Technical measures/Precautions, Incompatible products	Additions
8	Exposure Limit Values, Derived No Effect Level (DNEL), Predicted No Effect Concentration	Additions, Deletions
9	Relative density	Revisions
10	Hazardous reactions	Additions
11	Sensitisation, mutagenic effects, Aspiration hazard, Reproductive toxicity	Additions, Revisions
12	Ecotoxicology Assessment, Acute toxicity, Long term toxicity, Non aquatic toxicity, Distribution among environmental compartments	Additions, Revisions
15	Inventories	Additions, Revisions

Thesaurus:

NOAEL : No Observed Adverse Effect Level (NOAEL)

LOAEL : Lowest Observed Adverse Effect Level (LOAEL)

bw : Body weight

food : oral feed

dw : Dry weight

vPvB : very Persistent and very Bioaccumulative

PBT : Persistent, Bioaccumulative and Toxic

This information applies to the PRODUCT AS SUCH and conforming to specifications of ARKEMA. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).

