

**SAFETY DATA SHEET**

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 06/20/2017

Version 1.1

**SECTION 1. Identification****Product identifier**

Product number	BX1735
Product name	<i>n</i> -Butyl Acetate GR ACS
CAS-No.	123-86-4

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

Identified uses	Reagent for analysis
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**Details of the supplier of the safety data sheet**

Company	EMD Millipore Corporation   290 Concord Road, Billerica, MA 01821, United States of America   General Inquiries: +1-978-715-4321   Monday to Friday, 9:00 AM to 4:00 PM Eastern Time (GMT-5) MilliporeSigma is a business of Merck KGaA, Darmstadt, Germany.
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<b>Emergency telephone</b>	800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week
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**SECTION 2. Hazards identification****GHS Classification**

Flammable liquid, Category 3, H226  
Specific target organ systemic toxicity - single exposure, Category 3, Central nervous system, H336  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**GHS-Labeling***Hazard pictograms*

*Signal Word*  
Warning

*Hazard Statements*

H226 Flammable liquid and vapor.  
H336 May cause drowsiness or dizziness.

*Precautionary Statements*

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

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P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.  
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312 Call a POISON CENTER/doctor if you feel unwell.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.  
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.  
P501 Dispose of contents/ container to an approved waste disposal plant.

## Other hazards

None known.

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## SECTION 3. Composition/information on ingredients

Formula	$\text{CH}_3\text{COO}(\text{CH}_2)_3\text{CH}_3$	$\text{C}_6\text{H}_{12}\text{O}_2$ (Hill)
Molar mass	116.16 g/mol	

## Hazardous ingredients

*Chemical name (Concentration)*

CAS-No.

*n*-Butylacetate ( $\geq 90\%$  -  $\leq 100\%$ )

123-86-4

Exact percentages are being withheld as a trade secret.

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## SECTION 4. First aid measures

### Description of first-aid measures

*Inhalation*

After inhalation: fresh air. Call in physician.

*Skin contact*

After skin contact: wash off with plenty of water. Remove contaminated clothing.

*Eye contact*

After eye contact: rinse out with plenty of water.

*Ingestion*

After swallowing: caution if victim vomits. Risk of aspiration! Keep airways free. Pulmonary failure possible after aspiration of vomit. Call a physician immediately.

Never give anything by mouth to an unconscious person.

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

Drowsiness, narcosis, somnolence

Drying-out effect resulting in rough and chapped skin.

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

Laxative: Sodium sulfate (1 tablespoon/1/4 l water). Activated charcoal

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## SECTION 5. Fire-fighting measures

### Extinguishing media

*Suitable extinguishing media*

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

*Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### Special hazards arising from the substance or mixture

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air at elevated temperatures.

Development of hazardous combustion gases or vapors possible in the event of fire.

### Advice for firefighters

*Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

*Further information*

Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## SECTION 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact.

Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### Environmental precautions

Do not empty into drains. Risk of explosion.

### Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

Take up with liquid-absorbent material (e.g. Chemisorb®). Dispose of properly. Clean up affected area.

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## SECTION 7. Handling and storage

### Precautions for safe handling

Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols.

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Observe label precautions.

### *Advice on protection against fire and explosion*

Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.

### Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep container tightly closed in a dry and well-ventilated place.

Store at room temperature.

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## SECTION 8. Exposure controls/personal protection

### Exposure limit(s)

#### *Ingredients*

Basis	Value	Threshold limits	Remarks
<i>n-Butylacetate 123-86-4</i>			
NIOSH/GUIDE	Recommended exposure limit (REL):	150 ppm 710 mg/m <sup>3</sup>	
	Short Term Exposure Limit (STEL):	200 ppm 950 mg/m <sup>3</sup>	
OSHA_TRANS	PEL:	150 ppm 710 mg/m <sup>3</sup>	
Z1A	Short Term Exposure Limit (STEL):	200 ppm 950 mg/m <sup>3</sup>	
	Time Weighted Average (TWA):	150 ppm 710 mg/m <sup>3</sup>	
ACGIH	Time Weighted Average (TWA):	50 ppm	
	Short Term Exposure Limit (STEL):	150 ppm	

### Engineering measures

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

### Individual protection measures

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

### *Hygiene measures*

Change contaminated clothing. Preventive skin protection recommended. Wash hands after working with substance.

### *Eye/face protection*

Safety glasses

### *Hand protection*

splash contact:

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Glove material: Nitrile rubber  
Glove thickness: 0.40 mm  
Break through time: > 30 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example KCL 730 Camatril® -Velours (splash contact).

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet and supplied by us as well as to the purpose specified by us. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

#### *Other protective equipment:*

Flame retardant antistatic protective clothing.

#### *Respiratory protection*

required when vapors/aerosols are generated.

Recommended Filter type: Filter A (acc. to DIN 3181) for vapors of organic compounds

The entrepreneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are performed according to the instructions of the producer. These measures have to be properly documented.

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## SECTION 9. Physical and chemical properties

Physical state	liquid
Color	colorless
Odor	fruity
Odor Threshold	7 - 20 ppm
pH	6.2 at 5.3 g/l 68 °F (20 °C) (External MSDS)
pour point	ca. -130 °F (-90 °C)  Method: ISO 3016
Boiling point/boiling range	259 °F (126 °C) at 1,013 hPa Method: OECD Test Guideline 103
Flash point	81 °F (27 °C) at 1,013 hPa  Method: Tested according to Directive 92/69/EEC.
Evaporation rate	No information available.

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Flammability (solid, gas)	No information available.
Lower explosion limit	1.4 %(V)
Upper explosion limit	7.5 %(V)
Vapor pressure	15 hPa at 68 °F (20 °C)  63 hPa at 122 °F (50 °C)
Relative vapor density	4.0
Density	0.88 g/cm <sup>3</sup> at 68 °F (20 °C)
Relative density	No information available.
Water solubility	5.3 g/l at 68 °F (20 °C) Method: OECD Test Guideline 105
Partition coefficient: n-octanol/water	log Pow: 2.3 (25 °C) OECD Test Guideline 107 Bioaccumulation is not expected.
Autoignition temperature	779 °F(415 °C) at 1,010 hPa Method: DIN 51794
Decomposition temperature	No information available.
Viscosity, dynamic	0.73 mPa.s at 68 °F (20 °C) Method: OECD Test Guideline 114
Explosive properties	Not classified as explosive.
Oxidizing properties	none
Ignition temperature	698 °F (370 °C)
Viscosity, kinematic	0.83 mm <sup>2</sup> /s at 68 °F (20 °C) Method: OECD Test Guideline 114
Conductivity	< 0.2 μS/cm

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## SECTION 10. Stability and reactivity

### Reactivity

Vapor/air-mixtures are explosive at intense warming.

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Risk of explosion with:

Alkali metals, alkali hydroxides, Strong oxidizing agents

### Conditions to avoid

Heating.

### Incompatible materials

rubber, various plastics

### Hazardous decomposition products

no information available

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Inhalation, Eye contact, Skin contact

#### *Target Organs*

Eyes

Skin

Respiratory system

Central nervous system

#### *Acute oral toxicity*

LD50 Rat: 10,760 mg/kg

OECD Test Guideline 423

Symptoms: Risk of aspiration upon vomiting., Aspiration may cause pulmonary edema and pneumonitis.

#### *Acute inhalation toxicity*

LC50 Rat: > 21 mg/l; 4 h ; vapor

OECD Test Guideline 403

#### *Acute dermal toxicity*

LD50 Rabbit: > 14,100 mg/kg

OECD Test Guideline 402

#### *Skin irritation*

Rabbit

Result: No skin irritation

OECD Test Guideline 404

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Repeated exposure may cause skin dryness or cracking.

*Eye irritation*

Rabbit

Result: No eye irritation

OECD Test Guideline 405

*Sensitization*

In animal experiments:

Result: negative

(IUCLID)

Patch test:

Result: negative

(IUCLID)

*Genotoxicity in vitro*

Ames test

Salmonella typhimurium

Result: negative

Method: OECD Test Guideline 471

Mutagenicity (mammal cell test): chromosome aberration.

Result: negative

Method: OECD Test Guideline 473

*Specific target organ systemic toxicity - single exposure*

May cause drowsiness or dizziness.

Target Organs: Central nervous system

*Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

*Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

**Carcinogenicity**

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.



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## Further information

After absorption of large quantities:  
somnolence, Drowsiness, narcosis

Handle in accordance with good industrial hygiene and safety practice.

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## SECTION 12. Ecological information

### Ecotoxicity

#### *Toxicity to fish*

flow-through test LC50 Pimephales promelas (fathead minnow): 18 mg/l; 96 h

Analytical monitoring: yes

OECD Test Guideline 203

#### *Toxicity to daphnia and other aquatic invertebrates*

static test EC50 Daphnia magna (Water flea): 44 mg/l; 48 h (ECHA)

#### *Toxicity to algae*

static test EC50 Desmodesmus subspicatus (green algae): 674.7 mg/l; 72 h (ECHA)

static test NOEC Desmodesmus subspicatus (green algae): 200 mg/l; 72 h (ECHA)

#### *Toxicity to bacteria*

EC50 Pseudomonas putida: 959 mg/l; 18 h (IUCLID)

### Persistence and degradability

#### *Biodegradability*

98 %; 28 d; aerobic

OECD Test Guideline 301D

Readily biodegradable.

#### *Theoretical oxygen demand (ThOD)*

2,207 mg/g

(Lit.)

#### *Ratio BOD/ThBOD*

BOD5 7 - 46 %

(Lit.)

#### *Ratio COD/ThBOD*

78 %

(Lit.)

### Bioaccumulative potential

#### *Partition coefficient: n-octanol/water*

log Pow: 2.3 (25 °C)

OECD Test Guideline 107

Bioaccumulation is not expected.

### Mobility in soil

No information available.

#### *Additional ecological information*

Discharge into the environment must be avoided.

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## SECTION 13. Disposal considerations

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

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## SECTION 14. Transport information

### Land transport (DOT)

UN number	UN 1123
Proper shipping name	BUTYL ACETATES
Class	3
Packing group	III
Environmentally hazardous	--

### Air transport (IATA)

UN number	UN 1123
Proper shipping name	BUTYL ACETATES
Class	3
Packing group	III
Environmentally hazardous	--
Special precautions for user	no

### Sea transport (IMDG)

UN number	UN 1123
Proper shipping name	BUTYL ACETATES
Class	3
Packing group	III
Environmentally hazardous	--
Special precautions for user	yes
EmS	F-E S-D

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## SECTION 15. Regulatory information

### United States of America

#### SARA 313

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

#### SARA 302

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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## Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

### *Ingredients*

n-Butylacetate

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

### *Ingredients*

n-Butylacetate

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

## DEA List I

Not listed

## DEA List II

Not listed

## US State Regulations

### Massachusetts Right To Know

#### *Ingredients*

n-Butylacetate

### Pennsylvania Right To Know

#### *Ingredients*

n-Butylacetate

### New Jersey Right To Know

#### *Ingredients*

n-Butylacetate

### California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

## Notification status

TSCA: All components of the product are listed in the TSCA-inventory.

DSL: All components of this product are on the Canadian DSL

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## SECTION 16. Other information

### Training advice

Provide adequate information, instruction and training for operators.

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## Labeling

*Hazard pictograms*



*Signal Word*

Warning

*Hazard Statements*

H226 Flammable liquid and vapor.

H336 May cause drowsiness or dizziness.

EUH066 Repeated exposure may cause skin dryness or cracking.

*Precautionary Statements*

Prevention

P210 Keep away from heat.

## Full text of H-Statements referred to under sections 2 and 3.

H226

Flammable liquid and vapor.

H336

May cause drowsiness or dizziness.

## Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

Revision Date 06/20/2017

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The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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