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

1.1. Product identifier

Trade name

Chemtec B-Solve (2-Butoxyethanol)
REACH-Registration no. 01-2119475108-36-XXXX

Use of the substance/mixture

Cleaning additive

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

Identified Uses

At the moment we have no information available for the identified uses. In the presence of these data will be included in the safety data sheet.

Uses advised against

There are no uses have been identified, advised against.

1.3. Details of the supplier of the safety data sheet

Address

Chemtec Chemicals GmbH
August-Siemsen-Straße 13
21521 Dassendorf / Germany
Phone No. +49 4104 91897-99
e-mail. info@ctc-chemtec.de
Information provided by / phone Department product safety

1.4. Emergency telephone number

Medical Emergency information in case of poisoning: Poison Information Center Mainz – 24h –
Phone: +49 (0) 6131 19240 *(advisory service in German or English language)*

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Acute Tox. 4	H332
Acute Tox. 4	H312
Acute Tox. 4	H302
Eye Irrit. 2	H319
Skin Irrit. 2	H315

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008

Hazard pictograms

Signal word

Warning

Hazard statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.
H319	Causes serious eye irritation.
H315	Causes skin irritation.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P270	Do no eat, drink or smoke when using this product.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

PBT and vPvB

You find the results of PBT and vPvB assessment in section 12.

SECTION 3: Composition/information on ingredients

3.1. Substances

Hazardous ingredients

2-Butoxyethanol

CAS No.	111-76-2
EINECS no.	203-905-0
REACH-Registration no.	01-2119475108-36-XXXX
Concentration	>= 50 %

Skin Irrit. 2	H315
Acute Tox. 4	H332
Acute Tox. 4	H312
Acute Tox. 4	H302
Eye Irrit. 2	H319

Complete text of H-phrases in Chapter 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

If the patient is likely to become unconscious, place and transport in stable sideways position. Remove soiled or soaked clothing immediately, do not allow to dry. In case of accident or if you feel unwell, seek medical advice immediately. Adhere to personal protective measures when giving first aid

After inhalation

Ensure supply of fresh air. In the event of symptoms take medical treatment.

After skin contact

Wash off immediately with soap and water. Take off contaminated clothing and wash before reuse. Consult a doctor if skin irritation persists.

After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Eye treatment by an Occulist.

After ingestion

Rinse mouth thoroughly with water. Do not induce vomiting. Summon a doctor immediately.

4.2. Most important symptoms and effects, both acute and delayed

No information available.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Treatment as an ethylene glycol poisoning.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Alcohol-resistant foam, Dry chemical extinguisher, Water spray jet, Water mist, Carbon dioxide

Non suitable extinguishing media

Full water jet

5.2. Special hazards arising from the substance or mixture

In case of combustion evolution of dangerous gases possible. In the event of fire the following can be released: Carbon monoxide (CO); Carbon dioxide (CO2); If a fire breaks out nearby, pressure build-up and danger of bursting are possible. Violent vapour formation under influence of water.

5.3. Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit.

Cool endangered containers with water spray jet. Fire residues and contaminated fire-fighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Keep people away and stay on the upwind side. Use self-contained breathing apparatus.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Take up with absorbent material (eg sand, kieselguhr, universal binder). When picked up, treat material

as prescribed under Section 13 "Disposal". Do not pick up with the help of saw-dust or other combustible substances. Prevent spread over a wide area (by containment with sand or earth).

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Observe the usual precautions for handling chemicals. Provide good ventilation of working area (local exhaust ventilation if necessary). Avoid contact with eyes and skin.

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep seperated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Hold eye wash fountain available. Hold emergency shower available.

Advice on protection against fire and explosion

Keep away from sources of heat and ignition. Take precautionary measures against static discharge. Contact with hot fibrous insulation may reduce the auto-ignition temperature. Ignitable mixtures can form in the empty container.

7.2. Conditions for safe storage, including any incompatibilities

Use steel or stainless steel containers. Do not use containers, lines etc. made of copper or copper alloys. Do not use zinc containers. Do not use aluminium containers.

storage category TRGS 510	10	Combustible liquid

Keep container tightly closed and dry in a cool, well-ventilated place.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Derived No/Minimal Effect Levels (DNEL/DMEL)

2-Butoxyethanol

DNEL				
Conditions	Worker	Short term	dermal	Systemic effects
Concentration	89	mg/kg/d		
DNEL				
Conditions	Worker	Acute	inhalative	Systemic effects
Concentration	135	ppm		
DNEL				
Conditions	Worker	Acute	inhalative	Local effects
Concentration	50	ppm		
DNEL				
Conditions	Worker	Short term	inhalative	Acute effects
Concentration	663	mg/m³		
DNEL				
Conditions	Worker	Long term	inhalative	Systemic effects
Concentration	20	ppm		

DNEL				
Conditions	Worker	Short term	inhalative	Acute effects
Concentration	246	mg/m³		
DNEL				
Conditions	Worker	Long term	dermal	Systemic effects
Concentration	75	mg/kg/d		
DNEL				
Conditions	Consumer	Acute	dermal	Systemic effects
Concentration	44,5	mg/kg		
DNEL				
Conditions	Consumer	Acute	inhalative	Systemic effects
Concentration	426	mg/m³		
DNEL				
Conditions	Consumer	Acute	oral	Systemic effects
Concentration	13,4	mg/kg		
DNEL				
Conditions	Consumer	Acute	inhalative	Local effects
Concentration	123	mg/m³		
DNEL				
Conditions	Consumer	Long term	dermal	Systemic effects
Concentration	38	mg/kg		
DNEL				
Conditions	Consumer	Long term	inhalative	Systemic effects
Concentration	49	mg/m³		
DNEL				
Conditions	Consumer	Long term	oral	Systemic effects
Concentration	3,2	mg/kg/d		

Predicted No Effect Concentration (PNEC)

2-Butoxyethanol

Type of value	PNEC	
Type	Freshwater	
Concentration	8,8	mg/l
Type of value	PNEC	
Type	Saltwater	
Concentration	0,88	mg/l
Type of value	PNEC	
Type	Sewage treatment plant (STP)	
Concentration	463	mg/l
Type of value	PNEC	
Type	Freshwater sediment	
Concentration	34,6	mg/kg TG
Type of value	PNEC	

Type	Marine sediment	
Concentration	3,46	mg/kg TG
Type of value	PNEC	
Type	Soil	
Concentration	2,8	mg/kg TG

8.2. Exposure controls

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Breathing apparatus in the event of aerosol or mist formation. If workplace limits are exceeded, a respiratory protection approved for this particular job must be worn. Short term: filter apparatus, Filter A

Hand protection

impermeable gloves

Appropriate Material	viton		
Material thickness	>=	0,4	mm
Breakthrough time	>=	480	min
Appropriate Material	Butyl rubber		
Material thickness	>=	0,5	mm
Breakthrough time	>=	480	min

Eye protection

Tightly fitting safety glasses

Body protection

Clothing as usual in the chemical industry.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Form	liquid
Colour	colourless

Odour mild

Odour threshold

Remarks	No data available

pH value

Remarks	No data available

Melting point/freezing point

Value	-75			°C
Pressure	1013	hPa		

Initial boiling point and boiling range

Value	168	to	172	°C
Pressure	1.013	hPa		

Flash point

Value	67		°C
Pressure	1013	hPa	

Evaporation rate

Value	0,06
Source	Literature value

Flammability (solid, gas)

Not applicable

Upper/lower flammability or explosive limits

Lower explosion limit	1,3			%(V)
Upper explosion limit	10,6			%(V)

Vapour pressure

Value	1,17			hPa
Temperature	20	°C		

Vapour density

Remarks: No data available

Relative density

Value	0,9005	to	0,904	g/cm³
Temperature	20	°C		

Solubility(ies)

Medium: Water

Remarks: Completely miscible

Partition coefficient: n-octanol/water

log Pow: 0,81

Remarks: The possibility of bioaccumulation is slight.

Auto-ignition temperature

Value	230	°C
Source	Literature value	

Decomposition temperature

Remarks: No decomposition if used as prescribed.

Viscosity

dynamic

Value	3,26		mPa.s
Temperature	20	°C	

kinematic

Value	3,7		mm²/s
Temperature	20	°C	

Explosive properties

Remarks: No data available

Oxidising properties

Remarks: No data available

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Under normal conditions of storage and use, hazardous reactions will not occur.

10.2. Chemical stability

Under normal conditions of storage and use is the product stable.

10.3. Possibility of hazardous reactions

Reactions with strong oxidising agents. Reactions with light metals, with evolution of hydrogen. Polymerization does not occur.

10.4. Conditions to avoid

Prevent drying-out. Because of the high vapour pressure, containers are liable to burst iftemperature rises.

10.5. Incompatible materials

Reactions with strong acids. Reactions with strong oxidising agents.

10.6. Hazardous decomposition products

Hazardous determin decomposition products: Aldehydes, Ketones, organic acids

SECTION 11: Toxicological information

11.1. Information on toxicological effects

There is no data available on the product apart from the information given in this subsection.

Acute oral toxicity (Components)

2-Butoxyethanol

Species	rat		
LD50		1300	mg/kg
Species	guinea pig		
LD50		1400	mg/kg

Acute dermal toxicity (Components)

2-Butoxyethanol

Species	guinea pig		
LD50	>	2000	mg/kg

Acute inhalative toxicity (Components)

2-Butoxyethanol

Species	guinea pig			
LC0	>	3,1		mg/l
Duration of exposure		1	h	

Skin corrosion/irritation

evaluation: irritant

Serious eye damage/irritation

evaluation: irritant - risk of serious damage to eyes

Sensitization

2-Butoxyethanol

Species	guinea pig
evaluation	non-sensitizing
Source	Literature value
Species	Human

No sensitizing effect known.

Mutagenicity

Based on available data, the classification criteria are not met.

Carcinogenicity

Species: rat

Indications of possible carcinogenic effects in animal studies are available.

Reproductive toxicity

No indications of reproduction toxicity are available.

Specific Target Organ Toxicity (STOT)

Repeated exposure

Indications of STOT effects are available.

Organs:	Blood
Organs:	Kidneys
Organs:	Liver

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1. Toxicity

There is no data available on the product apart from the information given in this subsection.

Fish toxicity (Components)

2-Butoxyethanol

Species	rainbow trout (Oncorhynchus mykiss)		
LC50	1474		mg/l
Duration of exposure	96	h	
Remarks	Static system		
Species	zebra fish (Danio rerio)		
NOEC	> 100		mg/l
Duration of exposure	21	d	

Daphnia toxicity (Components)

2-Butoxyethanol

Species	Daphnia magna		
EC50	1550		mg/l
Duration of exposure	48	h	
Remarks	Static system		
Species	Daphnia magna		
NOEC	100		mg/l
Duration of exposure	21	d	

Algae toxicity (Components)

2-Butoxyethanol

Species	Pseudokirchneriella subcapitata		
EbC50	911		mg/l
Duration of exposure	72	h	
Remarks	Static system		

Bacteria toxicity (Components)

2-Butoxyethanol

Species	Pseudomonas putida		
EC3	> 700		mg/l
Duration of exposure	16	h	
Remarks	Static system		

12.2. Persistence and degradability

Biodegradability

Value	90,4		%
Duration of test	28	d	
evaluation	Readily biodegradable (according to OECD criteria)		
Method	OECD TG 301 B		

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water

log Pow	0,81
Remarks	The possibility of bioaccumulation is slight.

Bioconcentration factor (BCF)

BCF	<	100

12.4. Mobility in soil

Highly mobile in soils

12.5. Results of PBT and vPvB assessment

Evaluation of persistance and bioaccumulation potential

The Substance do not meets PBT-criterions. The Substance do not meets vPvB-criterions.

12.6. Other adverse effects

No data available

Behaviour in environment compartments

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

Land transport ADR/RID

Non-dangerous goods

14.1. UN number	-
14.2. UN proper shipping name	-
14.3. Transport hazard class(es)	-
14.4. Packing group	-
14.5. Environmental hazards	-
14.6. Special precautions for user	No information available.
14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	No information available.

SECTION 15: Regulatory information

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

The product is classified and labelled in accordance with EC directives/the relevant national laws.

SVHC

The product does not contain substances of very high concern (SVHC).

TA-Luft

Section 5.2.5: Organic Substances

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.

Department issuing safety data sheet

Department product safety

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.