BYK-ES 80

Version 9 | Revision Date 07/21/2026 | Print Date 08/06/2026

SECTION 1. IDENTIFICATION

Product name : BYK-ES 80

Manufacturer or supplier's details

Company : BYK USA LLC
524 South Cherry Street
Wallingford CT 06492

Telephone : (203) 265-2086
Visit our web site : www.byk.com
E-mail address : BRIEF.BYK.NAFTA@altana.com

Emergency telephone number : 203-265-2086; CHEMTREC 1-800-424-9300 / +1 703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Additive to Increase Conductivity
Restrictions on use : Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Acute toxicity (Oral) : Category 4

Serious eye damage : Category 1

Skin sensitisation : Category 1

Specific target organ toxicity - single exposure : Category 3 (Respiratory system, Central nervous system)

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.

Precautionary statements : **Prevention:**

P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
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/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Storage:
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.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture	:	Mixture
Chemical nature	:	Solution of an alkylolammonium salt of an unsaturated acidic carboxylic acid ester

Hazardous components

HMIRA# 6721 Exemption Granted 31.08.2009

Component	CAS-No.	Concentration (%)
Dicarboxylic acid ester with amine	-	>= 80 - < 100
Isobutanol	78-83-1	>= 10 - < 20

The specific chemical identity/weight percent of proprietary ingredient(s) is a trade secret

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.

If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.

In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear.
Do NOT induce vomiting.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.
Take victim immediately to hospital.

Most important symptoms and effects, both acute and delayed : No information available.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : High volume water jet

Specific hazards during firefighting : Cool closed containers exposed to fire with water spray.
Will not explode on mechanical impact.

Do not allow run-off from fire fighting to enter drains or water courses.

Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx)
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid formation of aerosol. Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Take precautionary measures against static discharges. Provide sufficient air exchange and/or exhaust in work rooms. Open drum carefully as content may be under pressure. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations. Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not

be employed in any process in which this mixture is being used.

Conditions for safe storage : No smoking.
Keep container tightly closed in a dry and well-ventilated place.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid : Keep away from oxidizing agents.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Hazardous components without workplace control parameters				
Isobutanol	78-83-1	TWA	50 ppm	ACGIH
Isobutanol		TWA	100 ppm 300 mg/m3	OSHA Z-1

Engineering measures : Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection : Unless air monitoring demonstrates vapor/mist/dust levels are below the PEL/TLV wear a properly fitted respirator (NIOSH approved) or dust mask during exposure.
In the case of vapour formation use a respirator with an approved filter.

Hand protection
Material : Nitrile rubber

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Colour	:	yellow
Odour	:	not significant
Odour Threshold	:	No data available
pH	:	7, Concentration: 1 % (68 °F (20 °C)) Method: Universal pH-value indicator
Melting point/freezing point	:	< 32 °F (< 0 °C) Method: derived
Initial boiling point and boiling range	:	222.80 °F (106.00 °C) Method: derived
Vapour pressure	:	12 hPa (68.00 °F (20.00 °C)) Method: derived
Flash point	:	104.00 °F (40.00 °C) Method: 48 (Abel-Pensky) DIN 51755
Upper explosion limit	:	10.70 %(V)
Lower explosion limit	:	1.50 %(V)
Evaporation rate	:	No data available
Relative vapour density	:	No data available
Relative Density/Specific Gravity	:	No data available
Density	:	1.0100 g/cm3 (68.00 °F (20.00 °C)) Method: 4 (20°C oscillating U-tube)
Bulk density	:	Not applicable
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	> 392 °F (> 200 °C) Method: DIN 51794

Thermal decomposition	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Surface tension	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	None expected

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Skin contact
Skin Absorption
Inhalation
Eyes
Ingestion

Acute toxicity

Product:

Acute oral toxicity	:	Acute toxicity estimate : 595.32 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate : > 5,000 mg/kg Method: Calculation method

Components:

- Dicarboxylic acid ester with amine:

Acute oral toxicity	:	LD50 Oral (Rat, female): > 300 - < 2,000 mg/kg Method: OECD Test Guideline 423 GLP: yes

78-83-1 Isobutanol:

Acute oral toxicity	:	LD50 (Rat): 2,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 8000 ppm
Exposure time: 4 h

Acute dermal toxicity : LD50 (Rabbit): 2,460 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes
Remarks: active ingredient

Remarks: Extremely corrosive and destructive to tissue.

Components:

- Dicarboxylic acid ester with amine:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

78-83-1 Isobutanol:
Species: Rabbit
Result: Moderate skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Risk of serious damage to eyes.
Assessment: Risk of serious damage to eyes.
Method: OECD Test Guideline 405
GLP: yes
Remarks: active ingredient

Remarks: May cause irreversible eye damage.

Remarks: Vapours may cause irritation to the eyes, respiratory system and the skin.

Components:

- Dicarboxylic acid ester with amine:
Species: Rabbit
Result: Risk of serious damage to eyes.
Assessment: Risk of serious damage to eyes.
Method: OECD Test Guideline 405
GLP: yes

78-83-1 Isobutanol:
Species: Rabbit
Result: Eye irritation
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitisation

Product:

Remarks: Causes sensitisation.

Components:

- Dicarboxylic acid ester with amine:
Test Type: Mouse Local Lymph Node assay (LLNA)
Species: Mouse
Assessment: May cause sensitisation by skin contact.
Method: OECD Test Guideline 429
Result: May cause sensitisation by skin contact.
GLP: yes

78-83-1 Isobutanol:
Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

Components:

- Dicarboxylic acid ester with amine:
Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

: Test Type: In vitro mammalian cell gene mutation test (mouse lymphoma)

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: positive

GLP: yes

: Test Type: Chromosome aberration test in vitro
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 473
Result: positive
GLP: yes

Genotoxicity in vivo : Test Type: In vivo micronucleus test
Test species: Rat (male)
Method: Mutagenicity (micronucleus test)
Result: negative
GLP: yes

Carcinogenicity

Product:

Remarks: No data available

IARC	No component 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 component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.
NTP	No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Remarks: No data available

Effects on foetal development : Remarks: No data available

Components:

- Dicarboxylic acid ester with amine:

Effects on fertility :

Species: Rat
Sex: male and female
Application Route: Oral
NOAEL: > 300 mg/kg,
F1: > 300 mg/kg,
Method: OECD Test Guideline 422
GLP: yes

Effects on foetal : Species: Rat

development > 300 mg/kg
> 300 mg/kg
Method: OECD Test Guideline 422
GLP: yes

STOT - single exposure

Product:

Assessment: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation., The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT - repeated exposure

Product:

Remarks: No data available

Repeated dose toxicity

Product:

Remarks: Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

Components:

- Dicarboxylic acid ester with amine:
Species: Rat, male and female
NOAEL: 300 mg/kg
Application Route: Oral
Method: OECD Test Guideline 422
GLP: yes

Aspiration toxicity

Product:

No data available

Components:

78-83-1 Isobutanol:
No aspiration toxicity classification

Experience with human exposure

Product:

Inhalation:

Symptoms: High concentrations of vapors may be irritating to the respiratory tract. May cause headaches, dizziness, nausea and vomiting. May cause CNS depression (drowsiness, loss of coordination and fatigue).

Skin contact:
Symptoms: Contact will probably cause irritation.

Eye contact:
Symptoms: Contact will probably cause irritation.

Ingestion:
Symptoms: Ingestion may irritate the digestive tract and cause same symptoms as inhalation.

Further information

Product:

Remarks: Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting., Concentrations substantially above the TLV value may cause narcotic effects., Solvents may degrease the skin.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : Remarks: No data available

Persistence and degradability

Product:

Biodegradability : Remarks: No data available

Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No data available

Mobility in soil

No data available

Other adverse effects

No data available

Product:

Regulation 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks		This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
Additional ecological information	:	No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

EPA Hazardous Waste Code(s)	:	D001: Ignitable
Waste from residues	:	Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations. Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1212
Proper shipping name	:	Isobutanol solution
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 1212
Proper shipping name	:	ISOBUTANOL, SOLUTION
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-D
Marine pollutant	:	no

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

Not applicable for product as supplied.

National Regulations

49 CFR

UN/ID/NA number	:	UN 1212
Proper shipping name	:	Isobutanol solution
Class	:	3
Packing group	:	III
Labels	:	FLAMMABLE LIQUID
Marine pollutant	:	no

Container sizes: 55 gallon drums, 5 or 6-gallon pails, 2oz/16oz samples

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

US. EPA CERCLA Hazardous Substances (40 CFR 302)

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Isobutanol	78-83-1	5000	25075

SARA 304 - Emergency Release Notification

This material does not contain any components with a section 304 EHS RQ.

US. EPA Emergency Planning and Community Right-To-Know Act (EPCRA) SARA Title III Section 302 Extremely Hazardous Substance (40 CFR 355, Appendix A)

This material does not contain any components with a SARA 302 RQ.

SARA 311/312 Hazards : Per the June 13, 2016 Federal Register notice, EPA harmonized the EPCRA 311/312 hazard categories with the 2012 OSHA hazard communication standard for classifying and labeling of chemicals (i.e. GHS). Please refer to Section 2 of the SDS to identify the appropriate hazard categories for reporting purposes.

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

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.

Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

Isobutanol	78-83-1	19.9 %

Massachusetts Right To Know

Isobutanol	78-83-1

Pennsylvania Right To Know

Dicarboxylic acid ester with amine	-
Isobutanol	78-83-1
n-Butanol	71-36-3

New Jersey Right To Know

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : 800963-5120

California Prop. 65

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

The components of this product are reported in the following inventories:

TSCA	:	All substances listed as active on the TSCA inventory
Section 5a	:	No substances are subject to a Significant New Use Rule.
Section 4 / 12(b)	:	No substances are subject to TSCA 12(b) export notification requirements.
DSL	:	We certify that all of the components of this product are listed on the DSL.

SECTION 16. OTHER INFORMATION

Revision Date : 07/21/2026

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.