BYK-CATALYST 450

Version 5 | Revision Date 07/17/2020 | Print Date 09/29/2022

SECTION 1. IDENTIFICATION

Product name : BYK-CATALYST 450

Manufacturer or supplier's details

Company : BYK USA Inc.
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 : Acid Catalyst

Restrictions on use : Refer to Section 15 for any restrictions that may apply

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 3

Skin irritation : Category 2

Eye irritation : Category 2A

Reproductive toxicity : Category 1B

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.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H360D May damage the unborn child.

Precautionary statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
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.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
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 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P332 + P313 If skin irritation occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash 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 amine salt of para-toluene sulfonic acid

Hazardous components

Component	CAS-No.	Concentration (%)
1-Methoxy-2-propanol	107-98-2	>= 64 - < 65
Amine salt of toluene sulfonic acid	-	>= 28 - < 29
Pyridine	110-86-1	>= 2 - < 3
2-Methoxy-1-propanol (impurity)	1589-47-5	>= 0.1 - < 1

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

SECTION 4. FIRST AID MEASURES

If inhaled : Remove to fresh air. Administer artificial respiration if necessary. Get medical aid as soon as possible.

In case of skin contact : Remove contaminated clothing. Wash thoroughly with soap and water.

In case of eye contact : Immediately flush with plenty of water for at least 20 minutes. Get medical aid.

If swallowed : Do not induce vomiting. Dilute with 1-2 glasses of water. Get medical aid.
Never give anything by mouth to an unconscious person.

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

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media : Foam
Carbon dioxide (CO2)
Dry chemical

Unsuitable extinguishing media : No information available.

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

Hazardous combustion : Carbon oxides

products		Nitrogen oxides (NOx) Sulphur oxides Hydrogen cyanide (hydrocyanic acid)
Further information	:	Keep away from heat and sources of ignition. Keep away from oxidizing agents.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Eliminate all sources of ignition. Ventilate area if indoors. Wear self-contained breathing apparatus and full protective clothing.
Environmental precautions	:	Prevent spilled material from entering the ground, water and/or air by using appropriate containment methods.
Methods and materials for containment and cleaning up	:	Stop leak. Dike and contain spill. Pump into salvage tanks and/or absorb with suitable material. Use sparkless shovels to remove material.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Harmful in contact with skin. Avoid contact with skin and eyes. Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. Handle as an industrial chemical. Keep container tightly closed.
Conditions for safe storage	:	Avoid exposure to excessive heat, light, and air for prolonged periods of time. Keep in a dry, cool and well-ventilated place. Keep product and empty container away from heat and sources of ignition. Take measures to prevent the build up of electrostatic charge.
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

1-Methoxy-2-propanol	107-98-2	TWA	50 ppm	ACGIH
1-Methoxy-2-propanol		STEL	100 ppm	ACGIH
Pyridine	110-86-1	TWA	1 ppm	ACGIH
Pyridine		TWA	5 ppm 15 mg/m3	OSHA Z-1
Pyridine		TWA	5 ppm 15 mg/m3	OSHA P0
Pyridine		TWA	5 ppm 15 mg/m3	NIOSH REL

Hazardous components without workplace control parameters

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.

Hand protection
Material : Impervious butyl rubber gloves

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

Eye protection : Safety Glasses
Goggles

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

Hygiene measures : Clean long legged, long sleeved work clothes.
Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : yellow - brown

Odour : amine-like

Odour Threshold : No data available

pH : 4, Concentration: 10 % (68 °F (20 °C)) Method: Universal pH-value indicator

Melting point/range	:	< 32 °F (< 0 °C) Method: derived
Initial boiling point	:	248.00 °F (120.00 °C) Method: derived
Vapour pressure	:	13 hPa (68 °F (20 °C)) Method: derived
Flash point	:	95.00 °F (35.00 °C) Method: 48 (Abel-Pensky)
Upper explosion limit	:	13.10 %(V)
Lower explosion limit	:	1.80 %(V)
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Relative vapour density	:	No data available
Relative Density/Specific Gravity	:	No data available
Density	:	1.0200 g/cm3 (68.00 °F (20.00 °C)) Method: 4 (20°C oscillating U-tube)
Bulk density	:	Not applicable
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Ignition temperature	:	> 392.00 °F (> 200.00 °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 : Not classified as a reactivity hazard.

Chemical stability : Stable; polymerization will not occur

Possibility of hazardous reactions : 1-Methoxy-2-propanol acetate/DPM may form peroxides of unknown stability.

Conditions to avoid : Prolonged heat/light/air exposure

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 : 3,368 mg/kg
Method: Calculation method

Acute inhalation toxicity : Acute toxicity estimate : > 200 mg/l
Exposure time: 4 h
Test atmosphere: vapour
Method: Calculation method

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

Components:

107-98-2 1-Methoxy-2-propanol:

Acute oral toxicity : LD50 (Rat, male and female): 4,016 mg/kg
Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral)
GLP: yes

Acute inhalation toxicity : LC50 (Rat): 1500 ppm

Acute dermal toxicity : LD50 (Rabbit): 13,000 mg/kg

- Amine salt of toluene sulfonic acid:
Acute oral toxicity : LD50 Oral (Rat, male and female): > 4,000 mg/kg
Method: OECD Test Guideline 423
GLP: yes

110-86-1 Pyridine:
Acute oral toxicity : LD50 (Rat): 891 mg/kg

Acute inhalation toxicity : LC50 (Rat): 9010 ppm

Acute dermal toxicity : LD50 (Rabbit): 1,121 mg/kg

Skin corrosion/irritation

Product:

Remarks: No data available

Components:

107-98-2 1-Methoxy-2-propanol:
Species: Rabbit
Result: Moderate skin irritation

- Amine salt of toluene sulfonic acid:
Species: Rabbit
Method: OECD Test Guideline 404
Result: No skin irritation
GLP: yes

110-86-1 Pyridine:
Species: Rabbit
Result: Severe skin irritation

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

107-98-2 1-Methoxy-2-propanol:
Species: Rabbit
Result: Eye irritation

- Amine salt of toluene sulfonic acid:
Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
GLP: yes

110-86-1 Pyridine:
Species: Rabbit
Result: Severe eye irritation

Respiratory or skin sensitisation

Product:

Remarks: No data available

Components:

107-98-2 1-Methoxy-2-propanol:
Test Type: Maximisation Test
Exposure routes: Dermal
Species: Guinea pig
Method: Directive 67/548/EEC, Annex V, B.6.
Result: Does not cause skin sensitisation.
GLP: yes

Carcinogenicity

IARC	Group 2B: Possibly carcinogenic to humans	
	Pyridine	110-86-1
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.	

Repeated dose toxicity

Product:

Remarks: Solvent absorption by inhalation and/or repeated skin contact may cause injury to liver, kidney and respiratory system.
Reports have associated repeated and prolonged occupational exposure to solvents with permanent brain and nervous system damage.
Pyridines have been shown to cause liver damage.

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.

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

Product:

Results of PBT and vPvB assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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	:	There is no data available for this product.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

EPA Hazardous Waste Code(s)	:	D001: Ignitable
		D038: Pyridine
Waste from residues	:	Dispose of in accordance with applicable local/municipal, state/provincial and federal regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

UN/ID No.	:	UN 1993
Proper shipping name	:	Flammable liquid, n.o.s. (Pyridine, 1-Methoxy-2-propanol)
Class	:	3
Packing group	:	III
Labels	:	Flammable Liquids
Packing instruction (cargo aircraft)	:	366
Packing instruction (passenger aircraft)	:	355

IMDG-Code

UN number	:	UN 1993
Proper shipping name	:	FLAMMABLE LIQUID, N.O.S. (Pyridine, 1-Methoxy-2-propanol)
	:	)
Class	:	3
Packing group	:	III
Labels	:	3
EmS Code	:	F-E, S-E
Marine pollutant	:	no
Remarks	:	IMDG Code segregation group - none

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 1993
Proper shipping name	:	Flammable liquids, n.o.s. (Pyridine, 1-Methoxy-2-propanol)
Class	:	3
Packing group	:	III
Labels	:	FLAMMABLE LIQUID
ERG Code	:	128
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)
Pyridine	110-86-1	1000	5000
Pyridine	110-86-1	100	5000
Pyridine	110-86-1	1000	5000

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 product contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR part 372.

Pyridine	110-86-1	2 %

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):

1,2-Propanediol	57-55-6	5.0 %
Pyridine	110-86-1	2 %

Non-volatile (Wt) : 25 - 28 %
Method: 22 (10min/150°C)
DIN EN ISO 3251
Non-volatile information is not a specification.

Massachusetts Right To Know

1-Methoxy-2-propanol	107-98-2
Pyridine	110-86-1

Pennsylvania Right To Know

1-Methoxy-2-propanol	107-98-2
Amine salt of toluene sulfonic acid	-
1,2-Propanediol	57-55-6
Pyridine	110-86-1

New Jersey Right To Know

1-Methoxy-2-propanol	107-98-2
Amine salt of toluene sulfonic acid	-
1,2-Propanediol	57-55-6
Pyridine	110-86-1

New Jersey Trade Secret Registry Number for the product (NJ TSRN) : 800963-5110

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including Pyridine, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

CONEG Heavy Metal: We confirm that we use packaging and/or packaging components in which the sum of the incidental concentration levels of lead, mercury, cadmium and hexavalent chromium do not exceed 100 parts per million by weight.

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

TSCA : We certify that all of the components of this product are either listed on the TSCA Inventory or are not subject to the notification requirements per 40 CFR 720 30(h).

Section 4 / 12(b)	:	Not applicable
TSCA Inventory Active List		All components of this product are listed active and/or are exempt
DSL	:	We certify that all of the components of this product are listed on the DSL.

SECTION 16. OTHER INFORMATION

Revision Date	:	07/17/2020

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.