

## AZ EBR 70/30

Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

## SECTION 1: Identification of the hazardous chemical and of the supplier

## Product identifier

Product name : AZ EBR 70/30

## Other means of identification

Product code : 560860

## Recommended use of the chemical and restrictions on use

Recommended use : Intermediate for electronic industry

Restrictions on use : No data available

## Manufacturer or supplier's details

Company : Merck Performance Materials Ltd  
Haesung-2-building, Teheran-Ro 508, Gangnam-Gu, Seoul,  
Republic of KoreaEmergency telephone : +82 2 2185 3800  
number Operating hour - 09:00~18:00, Mon – Fri (holidays excepted)

## SECTION 2: Hazards identification



## Classification of the hazardous chemical

Flammable liquids : Category 3

Serious eye damage/eye irritation : Category 2

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

## Label elements

Hazard pictograms :  

Signal word : Warning

Hazard statements : H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.Precautionary statements : **Prevention:**  
P210 Keep away from heat/sparks/open flames/hot surfaces.

## AZ EBR 70/30

Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

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/ eye protection/ face protection.

**Response:**

P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician 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.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

**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 which do not result in classification**

None known.

**SECTION 3: Composition and information of the ingredients of the hazardous chemical**

Substance / Mixture : Mixture

Chemical name	Common Name	CAS-No.	Concentration (% w/w)
1-methoxy-2-propanol	Propylene glycol monomethyl ether	107-98-2	>= 60 - <= 100
2-methoxy-1-methylethyl acetate	2-methoxy-1-methylethyl acetate	108-65-6	>= 30 - < 60

**SECTION 4: First aid measures**

General advice : Consult a physician.  
Show this safety data sheet to the doctor in attendance.

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

---

If inhaled	: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact	: Wash off immediately with soap and plenty of water. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.
In case of eye contact	: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contact lenses.
If swallowed	: Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Rinse mouth with water. Call a physician immediately.
Most important symptoms and effects, both acute and delayed	: Inhalation of high concentration may cause Headache Dizziness
Notes to physician	: Treat symptomatically.

---

**SECTION 5: Firefighting measures****Extinguishing media**

Suitable extinguishing media : Carbon dioxide (CO<sub>2</sub>)  
Water spray  
Dry chemical  
Alcohol-resistant foam

Unsuitable extinguishing media : High volume water jet

**Physicochemical hazards arising from the chemical**

Specific hazards during fire-fighting : In case of fires, hazardous combustion gases are formed:  
Carbon dioxide (CO<sub>2</sub>)  
Carbon monoxide

**Special protective equipment and precautions for fire-fighters**

Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus.  
Full protective suit  
If protective equipment is not available or not used, fight fire from a protected location or safe distance.

Specific extinguishing methods : Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being build up due to heat.  
Avoid breathing vapours.  
Stay upwind/ keep distance from source.  
De-energize the area and remove any source of ignition.  
Vapors are heavier than air and may travel a long distance and accumulate in low lying areas.  
Vapor may travel considerable distance to source of ignition and flash back.

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

Do not use direct water stream. May spread fire.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

**SECTION 6: Accidental release measures**

- Personal precautions, protective equipment and emergency procedures : Wear personal protective equipment. Unprotected persons must be kept away.  
Keep people away from and upwind of spill/leak.  
Do not breathe vapours, aerosols.  
Avoid contact with skin and eyes.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.
- Environmental precautions : The product should not be allowed to enter drains, water courses or the soil.
- 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****Handling****Precautions for safe handling**

- Advice on protection against fire and explosion : Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors.
- Advice on safe handling : Keep away from open flames, hot surfaces and sources of ignition.  
Avoid breathing vapours.  
Avoid contact with skin, eyes and clothing.  
Keep container closed when not in use.  
Take precautionary measures against static discharge.  
Wash thoroughly after handling.

**Storage****Conditions for safe storage, including any incompatibilities**

- Conditions for safe storage : Store in original container.  
Keep tightly closed in a dry, cool and well-ventilated place.
- Materials to avoid : Keep away from oxidizing agents and strongly acid or alkaline materials.

**SECTION 8: Exposure controls and personal protection****Control parameters**

Components	CAS-No.	Value type	Control parameter	Basis
------------	---------	------------	-------------------	-------

## AZ EBR 70/30

Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

		(Form of exposure)	ters / Permissible concentration	
1-methoxy-2-propanol	107-98-2	TWA	100 ppm 369 mg/m <sup>3</sup>	MY PEL
		TWA	50 ppm	ACGIH
		STEL	100 ppm	ACGIH

**Appropriate engineering controls** : Handle only in a place equipped with local exhaust (or other appropriate exhaust).

**Individual protection measures, such as personal protective equipment**

Eye/face protection : Tightly fitting safety goggles

Skin protection : Protective clothing  
Solvent-resistant apron and boots

Hand protection  
Remarks : Chemically resistant gloves

Respiratory protection : Respirator with filter for organic vapour

Hygiene measures : Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**SECTION 9: Physical and chemical properties**

Appearance : liquid

Colour : clear  
colourless

Odour : characteristic

Odour Threshold : No data available

pH : No data available

Melting point/range : < -10 °C  
(solvent)

Boiling point/boiling range : 145.8 °C  
(solvent)

Flash point : 34 °C Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : Not applicable

Upper explosion limit : 10.8 %(V)  
(solvent)

Lower explosion limit : 1.5 %(V)  
(solvent)

Vapour pressure : 3.7 hPa (20 °C)

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

(solvent)

Relative vapour density	: No data available
Relative density	: ca. 0.93
Density	: No data available
Solubility(ies) Water solubility	: partly soluble
Partition coefficient: n- octanol/water	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, dynamic	: No data available

**SECTION 10: Stability and reactivity**

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under recommended storage conditions.
Possibility of hazardous reactions	: Hydrolyses in presence of: Strong acids and strong bases
Conditions to avoid	: Keep away from open flames, hot surfaces and sources of ignition. Extremes of temperature and direct sunlight. Avoid shock and friction.
Incompatible materials	: Strong oxidizing agents
Hazardous decomposition products	: Carbon oxides

**SECTION 11: Toxicological information****Information on likely routes of exposure**

Inhalation	: Causes headache, drowsiness or other effects to the central nervous system.
Skin contact	: No data available
Eye contact	: May irritate eyes.
Ingestion	: No data available

**Symptoms related to the physical, chemical and toxicological characteristics**

: Inhalation of high concentration may cause, Headache, Dizziness

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860**Information on toxicological effects**

## Acute toxicity

Acute oral toxicity : No data available

Acute inhalation toxicity : No data available

Acute dermal toxicity : No data available

Skin corrosion/irritation : No data available

Serious eye damage/eye irritation : No data available

## Respiratory or skin sensitisation

Sensitisation : No data available

## Carcinogenicity

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.

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.

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

Germ cell mutagenicity : No data available

Reproductive toxicity : No data available

Specific target organ toxicity - single exposure  
: No data availableSpecific target organ toxicity - repeated exposure  
: No data available

Aspiration hazard : No data available

Further information : The product itself has not been tested.

**Component Information**1-methoxy-2-propanol

## Acute toxicity

Acute oral toxicity : LD50: 3,739 mg/kg,Rat, male

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

	Method: EC Directive 92/69/EEC B.1 Acute Toxicity (Oral), GLP yes (ECHA)
Acute inhalation toxicity	: LC50: 32 mg/l, 4 h, vapour, Rat Method: OECD Test Guideline 403, GLP yes (ECHA)
Acute dermal toxicity	: LD50: 13,000 mg/kg, Rabbit (OECD SIDS)
Skin irritation	: Rabbit, No skin irritation, Regulation (EC) No. 440/2008, Annex, B.4, Exposure time: 4 h (ECHA)
Eye irritation	: Rabbit, No eye irritation, Regulation (EC) No. 440/2008, Annex, B.5 (ECHA)
Sensitisation	: Sensitisation test:, Guinea pig, negative (IUCLID)
Genotoxicity in vitro	: gene mutation test, Salmonella typhimurium, with and without metabolic activation, negative, OECD Test Guideline 471, GLP yes (ECHA)
Genotoxicity in vivo	: Micronucleus test, Mouse, OECD Test Guideline 474, negative (ECHA)
Reproductive toxicity	: No data available
Specific target organ toxicity - single exposure	: Inhalation, Target Organs: Central nervous system May cause drowsiness or dizziness. (OECD SIDS)
Specific target organ toxicity - repeated exposure	: No data available
Aspiration toxicity	: No data available

2-methoxy-1-methylethyl acetate

## Acute toxicity

Acute oral toxicity	: LD50: 6,190 mg/kg,Rat, male and female Method: OECD Test Guideline 401, GLP yes (ECHA)
Acute inhalation toxicity	: No data available
Acute dermal toxicity	: LD50: > 2,000 mg/kg, Rat, male and female Method: OECD Test Guideline 402, GLP yes (ECHA)
Skin irritation	: Rabbit, No skin irritation, OECD Test Guideline 404, Exposure time: 24 h



**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

(ECHA)

Eye irritation	: Rabbit, Irritating to eyes.
Sensitisation	: Maximisation Test, Guinea pig, Does not cause skin sensitisation., OECD Test Guideline 406 (ECHA)
Genotoxicity in vitro	: Ames test, Salmonella typhimurium, with and without metabolic activation, negative, OECD Test Guideline 471, GLP yes (ECHA)
Teratogenicity	: Species: Rat Application Route: Inhalation Number of exposures: daily Test period: 21 d Method: OECD Test Guideline 414
Specific target organ toxicity - single exposure	: May cause respiratory irritation., May cause drowsiness or dizziness. NITE
Specific target organ toxicity - repeated exposure	: No data available
Aspiration toxicity	: No data available
Further information	: Systemic effects:  : Drowsiness Cyanosis Unconsciousness narcosis  : Damage to:  : Kidney Liver

**SECTION 12: Ecological information**

<b>Ecotoxicity</b>	: No data available
<b>Persistence and degradability</b>	: No data available
<b>Bioaccumulation</b>	: No data available
<b>Stability in soil</b>	: No data available

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860**Other adverse effects**

Additional ecological information : The product itself has not been tested.

**Component Information**1-methoxy-2-propanol

Ecotoxicity : Fish: *Leuciscus idus* (Golden orfe), LC50: 4,600 - 10,000 mg/l , static test, 96 h, DIN 38412 (ECHA)  
Invertebrates: *Daphnia magna* (Water flea), EC50: > 500 mg/l , 48 h, Regulation (EC) No. 440/2008, Annex, C.2 (ECHA)  
algae: *Pseudokirchneriella subcapitata* (green algae), ErC50: > 1,000 mg/l , 168 h, static test, GLP yes (ECHA)

Toxicity to bacteria : IC50: > 1,000 mg/l  
Exposure time: 3 h  
Species: activated sludge  
static test  
Method: OECD Test Guideline 209  
Remarks:  
(ECHA)

Biodegradation : 96 %, 28 d, Readily biodegradable.  
(ECHA)

Bioaccumulation : No data available

Stability in soil : No data available

2-methoxy-1-methylethyl acetate

Ecotoxicity : Fish: *Oncorhynchus mykiss* (rainbow trout), LC50: 134 mg/l , static test, 96 h, OECD Test Guideline 203 (ECHA)  
Invertebrates: *Daphnia magna* (Water flea), EC50: 408 mg/l , 48 h, static test, OECD Test Guideline 202, GLP yes (ECHA)  
algae: *Pseudokirchneriella subcapitata* (green algae), NOEC: > 1,000 mg/l , 96 h, static test, yes, OECD Test Guideline 201 (ECHA)  
algae: *Pseudokirchneriella subcapitata* (green algae), ErC50: > 1,000 mg/l , 96 h, static test, yes, OECD Test Guideline 201 (ECHA)

Toxicity to bacteria : EC10: > 1,000 mg/l  
Exposure time: 30 min  
Species: activated sludge  
static test  
Method: OECD Test Guideline 209  
Remarks:  
(ECHA)

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

	: EC20: > 1,000 mg/l Exposure time: 30 min Species: activated sludge static test Method: OECD Test Guideline 209 Remarks: (ECHA)
Biodegradation	: 83 %, 28 d, Readily biodegradable. (ECHA)
Bioaccumulation	: No data available
Biochemical Oxygen Demand (BOD)	: 330 mg/g , 5 d (IUCLID)
Chemical Oxygen Demand (COD)	: 1,740 mg/g (IUCLID)
Stability in soil	: No data available

**SECTION 13: Disposal information****Disposal methods**

Waste from residues	: Dispose of in accordance with local regulations.
Contaminated packaging	: Packaging that is not properly emptied must be disposed of as the unused product.

**SECTION 14: Transport information****International Regulations****UNRTDG**

UN number	: UN 1993
Proper shipping name	: FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol, 2-methoxy-1-methylethyl acetate)
Class	: 3
Packing group	: III
Labels	: 3

**IATA-DGR**

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

**IMDG-Code**

## AZ EBR 70/30

Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

---

UN number	: UN 1993
Proper shipping name	: FLAMMABLE LIQUID, N.O.S. (1-methoxy-2-propanol, 2-methoxy-1-methylethyl acetate)
Class	: 3
Packing group	: III
Labels	: 3
EmS Code	: F-E, <u>S-E</u>
Marine pollutant	: no

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

Not applicable for product as supplied.

---

**SECTION 15: Regulatory information****Safety, health, and environmental regulations specific for the hazardous chemical**

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

Regulation (EC) No 850/2004 on persistent organic pollutants : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

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

CH INV : Not in compliance with the inventory

REACH : Not in compliance with the inventory

DSL : This product or its components are listed on or compliant with the DSL.

AICS : On the inventory, or in compliance with the inventory

ENCS : On the inventory, or in compliance with the inventory

ISHL : On the inventory, or in compliance with the inventory

KECI : On the inventory, or in compliance with the inventory

PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

**AZ EBR 70/30**Version  
1.0Revision Date:  
19.12.2018SDS Number:  
70MDGM560860

TCSI : On the inventory, or in compliance with the inventory

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

**SECTION 16: Other information****Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Date of first issue : 19.12.2018  
Number of Revision : 1.0  
Revision Date : 19.12.2018  
Date format : dd.mm.yyyy

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.

MY / EN