

Safety Data Sheet

Methyl red methylene blue mixed indicator

liquid

Version : V2.0.0.1

Report No. : BWZ0206-2016-MSDS-US

Creation Date : 2026/01/15

Revision Date : -



*Prepared according to GB/T 17519-2013 and GB/T 16483-2008

1 Identification of the chemical and supplier

Product identifier

Product Name	Methyl red methylene blue mixed indicator liquid
Cat No.	BWZ0206-2016
CAS No.	Not applicable
EC No.	Not applicable
Molecular Formula	Not applicable

Recommended use of the product and restrictions on use

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

Details of the supplier of the Safety Data Sheet

Name of the company	Weiyel Inc
Address of the company	Hedian Light Industrial Park, Chengguan Town, Shangcheng County, Xinyang City, Henan Province, China
Post code	465350
Telephone number	010-58103678
Fax number	010-84840368
E-mail address	info@weiyel.com

Emergency phone number

Emergency phone number	010-58103678
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2 Hazard(s) identification

Emergency overview


Liquid. Highly flammable, its vapor and air mixture can form explosive mixture. Slightly harmful by inhalation.

Hazard classification according to GHS

The following classification is based on Specification for classification and labelling of chemicals GB 30000.2-2013~GB 30000.29-2013, GB 30000.1-2024 and GB 30000.1-2025 series standards.

Flammable Liquids	Category 2
Acute Toxicity - Inhalation	Category 5

GHS Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H225	Highly flammable liquid and vapour
H333	May be harmful if inhaled

Precautionary statements

◆ Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof [electrical/ventilating/lighting] equipment.
P242	Use non-sparking tools.
P243	Take action to prevent static discharges.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

◆ Response

P304+P312	IF INHALED: Call a POISON CENTER/doctor, if you feel unwell.
P370+P378	Small fire: dry chemical, CO ₂ or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

◆ Storage

P403+P235	Store in a well-ventilated place. Keep cool.
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◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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Hazard description

◆ Physical and chemical hazards

	Highly flammable liquids, its vapor and air mixture can form explosive mixture.
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◆ Health hazards

Inhaled	Cough. Headache. Fatigue. Drowsiness.
Ingestion	Burning sensation. Headache. Confusion. Dizziness. Unconsciousness.
Skin Contact	Dry skin.
Eye	Redness. Pain. Burning.

◆ Environmental hazards

	Please refer to 12th chapter of SDS.
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3 Composition/information on ingredients

Substance/mixture

Mixture

Component	CAS No.	EC No.	Concentration (wt, %)
2-(4-dimethylaminophenyl azo)benzoic acid	493-52-7	207-776-1	0.067
Methylene Blue trihydrate	7220-79-3	615-731-6	0.033
Ethanol	64-17-5	200-578-6	95
Water	7732-18-5	231-791-2	4.9

4 First-aid measures

Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse and then wash skin with water and soap.
Ingestion	Rinse mouth. Refer for medical attention.
Inhalation	Fresh air, rest.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

Most important symptoms, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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Advice for protecting the rescuer

1	Remove all sources of ignition and increase ventilation.
2	Avoid contact with skin and eyes.
3	Avoid inhalation of vapor or mist.
4	Use personal protective equipment including respirator.

Special note to the doctor

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Small fire: dry chemical, CO ₂ or alcohol-resistant foam; Large fire: alcohol-resistant foam; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out.
Unsuitable extinguishing media	Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the substance or mixture

1	Will form explosive mixtures with air.
2	Fire exposed containers may vent contents through pressure relief valves thereby increasing fire intensity and/or vapour concentration.
3	Vapours may travel to source of ignition and flash back.
4	Liquid and vapour are flammable.
5	Development of hazardous combustion gases or vapor possible in the event of fire.
6	May expansion or decompose explosively when heated or involved in fire.

Fire precautions and protective measures

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

1	Avoid breathing vapours and contacting with skin and eye.
2	Beware of vapours accumulating to form explosive concentrations.
3	Vapours can accumulate in low areas.
4	Emergency personnel wear positive pressure self-contained breathing apparatus. Wear protective and anti-static clothing. Wear chemical impermeable gloves.
5	Use personal protective equipment, do not breathe gas/mist/vapour/spray.
6	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
7	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

Methods and materials for containment and cleaning up

1	It is recommended that emergency personnel wear positive pressure self-contained breathing apparatus and wear anti-static clothing.
2	In case of small amount of spillage, use clean non sparking tools to collect absorption materials.
3	In case of large amount of spillage, construct cofferdam or dig a hole to collect the spillage. Use foam cover to reduce evaporation. Water spray mist can reduce evaporation, but can not reduce the flammability of the leakage in the restricted space.
4	Collect absorbent material using a clean, non-sparking tool.
5	Cover with anti-solvent foam to reduce evaporation.
6	Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain.
7	Water spray reduces evaporation but does not reduce the flammability of spills in confined spaces.
8	Cut off the source of the leak as much as possible.
9	Keep leaks in a ventilated place.
10	Absorb spilled material in dry sand or inert absorbent. In case of large amount of spillage, contain a spill by

	bunding.
11	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.
12	Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container.
13	Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

Preventive measures to prevent secondary disasters

1	Eliminate ignition sources and prevent leaks from entering sewers and basements.
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7 Handling and storage

Handling

1	Avoid inhalation of vapors.
2	Use only non-sparking tools.
3	To prevent fire caused by electrostatic discharge steam, equipment on all metal parts should be grounded.
4	Use explosion proof equipment.
5	Handling is performed in a well ventilated place.
6	Wear suitable protective equipment.
7	Avoid contact with skin and eyes.
8	Keep away from heat/sparks/open flames/ hot surfaces.

Storage

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

8 Exposure controls/personal protection

Control parameters

◆ Occupational exposure limit values

Occupational Exposure limit values	No relevant regulations
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◆ Biological limit values

Biological limit values	No relevant regulations
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◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 and GBZ/T 160 series standard Determination of toxic substances in workplace air.

Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

Personal protection equipment

General requirement	    
Eye protection	Must wear appropriate safety goggles.
Hand protection	Must wear anti static chemical protective gloves.
Respiratory protection	Must wear appropriate personal respiratory protective equipment.
Skin and body protection	Must wear anti static chemical protective clothing and anti static shoes.

9 Physical and chemical properties

Physical and chemical properties

Appearance	Red wine-colored liquid
Odor	No information available
Odor threshold	No information available
pH	7.0 (20°C, 10g/L,Ethanol)
Melting point/freezing point(°C)	-114 (Ethanol)
Initial boiling point and boiling range(°C)	78 (Ethanol)
Flash point(Closed cup,°C)	12 (Ethanol)
Evaporation rate	No information available
Flammability	No information available
Upper/lower explosive limits[%d(v/v)]	Upper limit : 27.7 (Ethanol); Lower limit : 3.1 (Ethanol)
Vapor pressure	5.8kPa (20°C,Ethanol)
Vapor density(Air = 1)	1.6 (Ethanol)
Relative density(Water=1)	0.79 (Ethanol)
Solubility	789g/L (20 °C,Ethanol)
n-octanol/water partition coefficient	-0.32 (Ethanol)
Auto-ignition temperature(°C)	400 (Ethanol)
Decomposition temperature(°C)	≥700 (Ethanol)
Kinematic viscosity	No information available

10 Stability and reactivity

Stability and reactivity

Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
Chemical stability	Stable under proper operation and storage conditions.
Possibility of hazardous reactions	In contact with oxidants causes severe reactions, and may cause a fire or explosion. In contact with active metals (alkali metals, Na, Ca etc.) causes a reaction and release hydrogen.
Conditions to avoid	Incompatible materials, heat, flame and spark.
Incompatible materials	Oxidants, alkali metals, alkaline earth metals and aluminum. Alkali, sodium,

	calcium, and other active metal, halogen, metal oxide, nonmetal oxide, acyl halide and metal phosphide.
Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

| Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
Ethanol	7060mg/kg(Rat)	No information available	39mg/L(Mouse)

| Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
2-(4-dimethylaminophenyl azo)benzoic acid	Category 3	Not Listed
Methylene Blue trihydrate	Category 3	Not Listed
Ethanol	Category 1(Remark 1)	Not Listed
Water	Not Listed	Not Listed

Remark 1: for alcoholic beverages only

| Others

Methyl red methylene blue mixed indicator liquid	
Skin corrosion/irritation	Based on available data, the classification criteria are not met
Serious eye damage/irritation	Based on available data, the classification criteria are not met
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	Based on available data, the classification criteria are not met
STOT-repeated exposure	Based on available data, the classification criteria are not met
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

12 Ecological information

| Acute aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Ethanol	LC ₅₀ : 11200mg/L (96h)(Fish)	EC ₅₀ : 9950mg/L (48h)(Crustaceans)	No information available

| Chronic aquatic toxicity

Chronic aquatic toxicity	No information available
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| Persistence and degradability

Component	Persistence (water/soil)	Persistence (air)
2-(4-dimethylaminophenyl azo)benzoic acid	High	High
Ethanol	Low(Half-life = 2.17 days)	Low(Half-life = 5.08 days)

Bioaccumulative potential

Component	Bioaccumulative potential	Comments
2-(4-dimethylaminophenyl azo)benzoic acid	Medium	Log Kow=4.1701
Ethanol	Low	Log Kow=-0.31

Mobility in soil

Component	log Koc	Remark
2-(4-dimethylaminophenyl azo)benzoic acid	1.902	
Ethanol	0	

Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
2-(4-dimethylaminophenyl azo)benzoic acid	Insufficient information, temporarily unable to evaluate
Methylene Blue trihydrate	Insufficient information, temporarily unable to evaluate
Ethanol	Not PBT/vPvB
Water	Insufficient information, temporarily unable to evaluate


13 Disposal considerations

Disposal considerations

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	
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IMDG-CODE

UN number	1993
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UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	II
Marine pollutant (Yes or no)	No

IATA-DGR

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	II

JT/T 617-2018

UN number	1993
UN proper shipping name	FLAMMABLE LIQUID, N.O.S.
Transport hazard class	3
Transport subsidiary hazard class	None
Packing group	II

Others

Precautions for transport	<p>Shipment of the goods vehicle exhaust pipe must be equipped with fire retardant devices, prohibit using mechanical equipment and tools of which easy to produce sparks. Transit should be anti-exposure, anti-rain, anti-high temperature.</p> <p>Transportation used tank (tank) cars should be grounded chain, tank can be installed to reduce the partition hole static electricity shocks. Strictly prohibited shipping or transportation with oxidants, acids, food and food additives etc. When bulk transport, Prohibit the use of cement or wooden boats. Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.</p>
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15 Regulatory information

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
2-(4-dimethylaminophenyl azo)benzoic acid	√	√	√	√	√	√	√	√	×	√	√	√	√
Methylene Blue trihydrate	×	×	×	×	√	×	×	×	×	×	×	√	√
Ethanol	√	√	√	√	√	√	√	√	√	√	√	√	√
Water	√	√	√	√	√	√	√	√	√	√	√	√	√

- [A] China Inventory of Existing Chemical Substances(IECSC)
- [B] European Inventory of Existing Commercial Chemical Substances(EC inventory)
- [C] United States Toxic Substances Control Act Inventory(TSCA)
- [D] Canadian Domestic Substances List(DSL)
- [E] New Zealand Inventory of Chemicals(NZIoC)
- [F] Philippines Inventory of Chemicals and Chemical Substances(PICCS)
- [G] Korea Existing Chemicals Inventory(KECL)
- [H] Australian. Inventory of Industrial Chemical (AIICS)
- [I] Japan Inventory of Existing & New Chemical Substances(ENCS)
- [J] Thailand Existing Chemicals Inventory(TECI)
- [K] Mexico National Inventory of Chemical Substances (INSQ)
- [L] Russia Inventory of Existing Substances (DRAFT)
- [M] Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
2-(4-dimethylaminophenylazo)benzoic acid	×	×	×
Methylene Blue trihydrate	×	×	×
Ethanol	×	×	×
Water	×	×	×

- [A] The Montreal Protocol on Substances that Deplete the Ozone Layer
- [B] Stockholm Convention on Persistent Organic Pollutants (POPs)
- [C] Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade

Chinese chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
2-(4-dimethylaminophenylazo)benzoic acid	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Methylene Blue trihydrate	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×
Ethanol	√	×	×	×	×	×	×	√	×	×	×	×	×	×	×
Water	×	×	×	×	×	×	×	×	×	×	×	×	×	×	×

- [A] Catalog of Hazardous Chemicals(2015 Edition), Notice 5th 2015, the former China State Administration of Work Safety together with the Ministry of Industry and Information Technology, etc.
- [B] List of Toxic Chemicals Restricted in China, Notice 32nd 2023, the Ministry of Ecology and Environment, Ministry of Commerce, General Administration of Customs.
- [C] List of Ozone Depletion Chemicals Controlled to be Imported/Exported in China (2021), Decree No. 50 of Ministry of Ecology and environment of PRC in 2021.
- [D] Catalog of Hazardous Chemicals for Priority Management (First and Second batches), Notice 95th, 2011, Notice 12th 2013, China State Administration of Work Safety.
- [E] Catalog of Hazardous Chemicals for Environmental Management, Notice 33th 2014, The former Ministry of Environmental Protection.
- [F] List of Various Monitoring Chemicals, 52th 2020, the Ministry of Industry and Information Technology.
- [G] List of Priority Controlled Chemicals (the First batch), 83th 2017, the former Ministry of Environmental Protection, Ministry of Industry and Information Technology, the former National Health And Family Planning Commission.
- [H] Catalog of Specially Controlled Hazardous Chemicals (First Edition), 1st 2020, the Ministry of Emergency Management, Ministry of Industry and Information Technology, Ministry of Public Security, Ministry of Transport.
- [I] List of Toxic and Hazardous Water Pollutants (First and th Second Batch), Ministry of Ecology and Environment Announcement[2019]No. 28 and [2025] No. 15.
- [J] Catalog of Highly Toxic Chemicals, Notice 142th 2003, the former Ministry of Health of P.R.China.
- [K] Dangerous Chemicals Directory Used to Manufacture Exploder (2017 Edition), Notice 11th May. 2017, Ministry of

- Public Security of P.R.China.
- [L]** Catalogue of Narcotic Drugs and Psychotropic Drugs for Pharmaceutical Use, National Medical Products Administration Announcement No. 55 of 2025.
- [M]** Decree No. 445 of the State Council in 2005 and its amendment announcement.
- [N]** Catalog of Import and Export Management of Precursor Chemicals, 7th 2006, the Ministry of Commerce.
- [O]** International Verification of Precursor Chemicals Management Catalog, 8th 2006, the Ministry of Commerce, Ministry of Public Security.

Note:

- “√” Indicates that the substance included in the regulations.
- “x” No data or not included in the regulations.

16 Other information

Information on revision

Creation Date	2026/01/15
Revision Date	-
Reason for revision	-

Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-CODE	International Maritime Dangerous Goods CODE
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to GB/T 16483-2008 and GB/T 17519-2013. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.