SAFETY DATA SHEET

（GB/T 16483、GB/T 17519）

Product name: SW-8520 1k Binder

Revised date：Feb 6, 2017 MSDS No.：MS-2016-12-QSW-1A001

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SECTION 1 Product and company identification

Product name: SW-8520 1k Binder

Manufacturer: YATU Advanced Materials Co., LTD.

Address: Sanlian Industrial Area 2, Gulao, Heshan, Guangdong, China

Tel: 0750-8778888 Fax: 0750-8773326

E-mail: yatu@yatupaint.cn Postcode: 529738

Emergency contact number: CHEMTREC (800) 424 9300

Product usage: Ancillary for automotive refinishing. Professional use only.

SECTION 2 Hazards identification

Emergency Outline:

Transparent flammable liquid and vapor with slight odor. Its vapor forms explosive mixtures when meets air. May cause combustion and explosion when meets with open flames and high heat. Easy to generate and accumulate static electricity. Fast flow velocity. It may cause eye, nose and throat irritation. May cause central nervous system depression if inhaled.

GHS hazards categories:

Flammable liquids	category 3	H226-flammable liquid and vapour
Acute toxicity (skin)	category 4	H312-harmful in contact with skin
Acute toxicity (inhalation)	category 4	H332-harmful if inhaled
Skin irritation	Category2	H315-causes skin irritation

Eye irritation	category 2A	H319-causes serious eye irritation
Specific target organ toxicity (single exposure)	category3 (respiration tract irritation)	H335- may cause respiratory irritation
Acute hazard to the aquatic environment	category 2	H400-very toxic to aquatic life
Long-term aquatic hazard	category 2	H412-harmful to aquatic life with long lasting effects

Label elements：

Hazard pictograms：

Signal word: Warning

Hazard statements:

H226	Flammable liquid and vapor.
H312	harmful in contact with skin
H332	Harmful if inhaled.
H315	May cause skin irritation.
H319	May cause serious eye irritation.
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H412	Harmful to aquatic life with long lasting effects

Precautionary statements:

Prevention:

P233	Keep container tightly closed.
P235	Keep cool.
P240	Ground and bond container and receiving equipment.
P271	Use only outdoors or in a well-ventilated area.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Use non-sparking tools.
P243	Take action to prevent static discharges.
P241	Use explosive-proof [electrical/ventilating/lighting…] equipment.
P280	Wear protective glove/protective clothing/eye protection/face protection
P261	Avoid breathing dust/fume/gas/mist/vapour/spray.
P273	Avoid release to the environment.

Response to accidents:

P312	Call a POISON CENTER/doctor/…if you feel unwell.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P332+P313	If skin irritation occurs: Get medical advice/attention.
P370+P378	In case of fire: Use…to extinguish.
P391	Collect spillage.

Safe storage:

P403+P235	Store in a well-ventilated place.
P405	Store locked up.

Disposal :

P501 Dispose of contents/container to…

Physical and chemical hazards:

Flammable liquid and vapor.

Health hazards:

It is hazardous if inhaled or on skin. It causes skin irritation and severe eye irritation, and it may cause respiration tract irritation.

Environmental hazards:

It is hazardous to aquatic life with long lasting effects.

Section 3 Composition/information on ingredients

Substance /mixture: mixture

product ingredient:

Chemical name	%	CAS Number
n-Butyl acetate	10-20	123-86-4
PMA	3-13	108-65-6
EAC	2-8	141-78-6
Xylene	5-15	1330-20-7
Trimethylbenzene	＜3	108-67-8
n-BA	2-8	71-36-3
Polyester Resin	5-15	109-16-0
AAcrylicAcid Polymers	2-8	9003-01-4
CAB	5-13	9004-36-8
Solvent Oil	1-8	64742-95-6

Section 4 First aid measures

Description of first aid measures:

Inhalation: Remove to fresh air. Keep person warm and at rest in a position comfortable for breathing.

Skin contact: Take off immediately all contaminated clothing. Rinse skin thoroughly with soap water. Do NOT use solvents or thinners.

Eye contact: Remove contact lenses, irrigate copiously with clean, fresh water or normal saline, holding the eyelids apart. Seek immediate medical advice.

Protection of first-aiders: the rescuer should wear an appropriate mask or self-contained breathing apparatus before enter accident scene.

Notes to physician: the harmful ingredients are displayed in section 3 and 11.

Section 5 Firefighting measures

Extinguishing media:

Use dry chemical, sand, foam or CO_2 extinguishers. Do not use water jet directly.

Special hazards:

Flammable liquid and vapor. Its vapor forms explosive mixtures when meets air. May cause combustion and explosion when meets with open flames and high heat. Fast flow velocity. Easy to generate and accumulate static electricity.

Special firefighting procedure and advice for protection:

Remove and process liquids from fire area in case of environment pollution. Fire-fighters should wear full protective clothing and self-contained breathing apparatus (SCBA), and stand on upwind area for firefighting.

Section 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Be stored in well-ventilated place, and keep away from ignition sources.

Ensure all devices are grounded while they are working.

Emergency responders should wear full protective clothing and self-contained breathing

apparatus during clean-up.

Follow the safety regulations.

Environmental precaution：

Avoid discharge into drains and water pipes. Inform the relevant authorities if there are pollutions entering into the rivers, lakes or waterways.

Methods and material for containment and cleaning up:

Small spills: Absorb with activated carbon or other inert material or wash out with lotion made by incombustible dispersant. After diluting, place it in an appropriate waste disposal container.

Large spills: Dike the spilled material and confine the sewers, where this is possible. Cover with foam to prevent evaporation. Collect and transfer spillage with explosive-proof pump, and place in tank trucks or containers for later recycle or disposal.

Section 7 Handling and storage

Precautions for safe handling:

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

The operator should wear antistatic clothing and shoes, and put on rubber oil-resistant gloves.

Workplace should be partial or comprehensive ventilated.

Use explosion-proof ventilation and equipment.

Filling speed should be controlled.

Grounding device is needed to prevent static accumulation.

Loading and unloading should be careful in order to prevent the damage of package and container.

Avoid contact with eyes, skin. Do not breathe mist or vapor.

Eating, drinking and smoking are prohibited in areas where this material is handled, stored and processed.

Conditions for safe storage, including any compatibility:

Store in a cool and well-ventilated warehouse.

Keep away from heat, direct sunlight or any source of ignition. Storage temperature: 0-35℃. Stored in a tightly closed container. Separate from oxidizing materials.

Use explosive lightning and ventilation devices with the switch outside the warehouse. Equipped with corresponding firefighting equipment with certain quality and quantity.

Barrel stacking should not be too large because it must keep a certain distance with wall, ceiling, column and fire inspection walkway.

Use only non-sparking tools and devices.

The storage area should be provided with a leak emergency operation device and appropriate containers.

Section 8 Exposure controls/personal protection

Occupational exposure limits:

Ingredient name	Maximum allowable concentration	Standard
n-Butyl acetate	PC-STEL：300mg/m^3；PC-TWA：200mg/m^3	GBZ 2.1 OEL (China)
	STEL：200ppm；TWA：150ppm	ACGIH TLV (USA)
PMA	STEL：150ppm；TWA：100ppm	ACGIH TLV (USA)
Xylene	PC-STEL：100mg/m^3；PC-TWA：50mg/m^3	GBZ 2.1 OEL （China）
	STEL：150ppm；TWA：100ppm	ACGIH TLV （USA）
Trimethylbenzene	TWA：25ppm	ACGIH TLV （USA）
n-BA	MAC：200mg/m^3	GBZ 2.1 OEL （China）
	STEL：50ppm；TWA：100ppm	ACGIH TLV （USA）

Polyester Resin	STEL：50ppm	ACGIH TLV （USA）
AcrylicAcid Polymers	MAC：80 mg/m^3	GBZ 2.1 OEL （China）
EAC	PC-STEL：300mg/m^3；PC-TWA：200mg/m^3	GBZ 2.1 OEL （China）
	STEL：400ppm；TWA：400ppm	ACGIH TLV （USA）

Methods of monitoring:

Method for determination of toxic substances in the air of workplace: Solvent Analysis-gas chromatography in GBZ/T 160.42, thermal desorption-gas chromatography, non-pump sampling -gas chromatography.

Engineering controls:

As flammable liquid, separated workplace is needed. The operation should be done in a closed place, in order to prevent vapor leaking in the air. Promote ventilation and maintain the airborne concentrations below the occupation exposure limits. Set up automatic alarm and accidental ventilation equipment. Emergency exits and risk-elimination areas are necessary. Set up communication alarm system. Red zone warning line, warning signs and Chinese warning instructions are needed.

Personal protective equipment:

Respiration protection: If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable), a self-absorption filter mask (half mask) must be worn. When emergency rescue or evacuation occurs, workers should wear air respirator or oxygen breathing apparatus.

Eye protection: wear safety goggles with side shields.

Skin/body protection: wear appropriate chemical resistant clothing.

Hand protection: wear rubber oil-resistant gloves.

Section 9 Physical and chemical properties

Appearance and character: white and transparent liquid.

Boiling point (**F**): 107-257

Flash point (**F**): 94 (closed cup)

Upper/lower flammability or explosive limits:

Flammability limit – lower (%): 0.9 estimated

Flammability limit – upper (%): 11.5 estimated

Viscosity (-4 cup, seconds, 30**℃**): N/A

VOC (g/L): N/A

Relative density (assume water as 1): 0.93

Solid contents (%): 26

Section 10 Stability and reactivity

Stability: The product is stable.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Avoid static electricity, high heat, open flames.

Incompatible materials: Strong acids, strong oxidizing agents, and strong alkali.

Hazardous decomposition products: No hazardous decomposition products are known under the condition of normal use.

Section 11 Toxicological information

Acute toxicity:

Ingredient name	Result	Species	Dose	Exposure
n-Butyl acetate	LC50 Inhalation vapor	rat	390ppm	4 hours
	LD50 Dermal	rabbit	＞17600mg/kg	-
	LD50 Oral	rat	10768mg/kg	-

Xylene	LD50 Oral	rat	4300mg/kg	-
PMA	LD50 Dermal	rabbit	＞5000mg/kg	-
	LD50 Oral	rat	8532mg/kg	-
Trimethylbenzene	LD50 Oral	rat	5000mg/kg	-
n-BA	LD50 Dermal	rabbit	3400mg/kg	-
	LD50 Oral	rat	4360mg/kg	-
Solvent Oil	LD50 Oral	mice	67000mg/kg	-
	LC50 Inhalation vapor	rat	300000mg/m^3	-
Polyester Resin	LC50 Inhalation vapor	mice	24g/m^3	4 hours
	LD50 Oral	mice	5g/kg	-
Acrylic Acid Polymers	LD50 Dermal	rabbit	14100mg/kg	-
	LD50 Oral	rat	5000mg/kg	-
EAC	LC50 Inhalation vapor	rat	5760mg/kg	-
	LD50 Oral	rabbit	4940mg/kg	-
	LD50 Oral	rat	5620mg/kg	-

Irritation/corrosion:

Ingredient name	Exposure Pathway	result	species	dose/time	observation
n-butyl acetate	eye	Moderate irritant	rabbit	100mg	-
	skin	Moderate irritant	rabbit	500mg/24h	-
Trimethylbenzene	eye	Mild irritant	rabbit	500mg/24h	-
	skin	Moderate irritant	rabbit	20mg/24h	-
n-BA	eye	Severe irritant	rabbit	2mg	-
	skin	Moderate irritant	rabbit	405mg/24h	-

Acrylic Acid Polymers	skin	Severe irritant	rabbit	10μg/24h	-
Xylene	eye	Mild irritant	rabbit	87mg	-
	eye	Severe irritant	rabbit	5mg/24h	-
	skin	Mild irritant	rat	60μL/8h	-
	skin	Moderate irritant	rabbit	500mg/24h	-
	skin	Moderate irritant	rabbit	100%	-

Reproductive toxicity:

n-butyl acetate: Rat inhaled a minimum toxic concentration (TCL0) of 1500ppm/7h (7-16 days of gestation), which resulting in fetal toxicity and abnormal skeletal development.

Xylene: Rat inhaled a minimum toxic concentration (TCL0) of 200ppm/6h (4-20 days of gestation), which resulting in abnormal skeletal development and neonatal behavior.

Acrylic Acid Polymers: Rat inhaled a minimum toxic concentration (TCL0) of 3000ppm/24h (7-14 days of gestation), which has impact on the death rate of embryo before implantation, muscle and marrow morphology of fetal rat. It is also embryonic toxic.

Specific target organ toxicity – single exposure:

n-butyl acetate: it affects central nervous system, and may cause drowsiness or dizziness.

Trimethylbenzene: it affects and irritates respiration system.

Specific target organ toxicity – repeated exposure:

Not available.

Aspiration hazards:

May cause nasal and throat irritation. It may cause neurasthenia. The typical symptoms are: headache, drowsiness, nausea, teetering, confusion of consciousness, and unconsciousness.

Ingestion hazard: It may cause gastrointestinal discomfort.

Contact hazards:

It may cause eye irritation or burns, even skin irritation with repeated or long-term contact. Discomfort and dermatitis may occur as well.

Section 12 Ecological information

Ecological toxicity:

ingredient name	result	species	exposure
n-butyl acetate	Acute LC50 32000μg/L seawater	Crustacean-Artemia salina	48hours
	Acute LC50 62000μg/L	Fish-Danio rerio	96 hours
Trimethylbenzene	Acute LC50 13000μg/L seawater	Crustacean-Cancer magister	48hours
	AcuteLC50 12520-15050μg/L freshwater	Fish-Carassius auratus	96hours
		Daphnia-Daphnia magna	21days
	Chronic NOEC 400μg/L freshwater		
Xylene	Acute LC50 8500μg/L seawater	Crustacean-Palaemonetes pugio	48hours
	Acute LC50 13400μg/L freshwater	Fish-Pimephales promelas	96 hours

Persistence and degradability: Not available

Bioaccumulative potential: Not available

Mobility in soil: No data available

Section 13 Disposal considerations

Chemical waste treatment methods:

Recommend the treatment method of transferring waste into energy if possible. Incineration or landfill should only be considered when recycling is not feasible. Discharging the product into the sewage is prohibited.

Contaminated package treatment methods:

Empty containers should be taken to an approved waste handling site for recycling or disposal. If not, disposal should be in accordance with applicable regional laws and regulations.

Notes for disposal:

The applicable regional, national regulations should be read before disposal.

Section 14 Transport information

UN number: UN 1263

UN proper shipping name: Paint, Paint Related Material

Transport hazard class (es): 3

Packing group: III

Package label: flammable liquid

Marine pollutant substances: Not applicable

International shipping regulations:

United States Department of transportation: 49CFR rating: 3 (flammable liquid and vapor).

Marine, IMDG rating: 3 (flammable liquid and vapor).

Shipping, IATA rating: 3 (flammable liquid and vapor).

Notes for transport:

The transportation vehicles shall be equipped with corresponding firefighting equipment and emergency treatment devices.

All transporting trucks should have grounded devices.

It cannot be transported with oxidant and food chemicals.

Transportation should prevent insolation, rain, and high temperature. Morning and evening transport are

recommended.

Stay away from fire, heat, high temperature zone when stopover.

The vehicle exhaust pipe must be equipped with a fire retardant device, and use only non-sparking machines and tools for loading and unloading.

Drivers should follow the driven routes. Do not stay in residential areas and densely populated areas. Do not use wooden, cement ships for bulk transportation because it will pollute the ocean if it leaks.

Section 15 Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 311/312

Classification : Fire hazard

Immediate (acute) health hazard

Delayed (chronic) health hazard

SARA 313

	Product name	**CAS number**	**%**
Form R - Reporting requirements	xylene	1330-20-7	5-15
	butan-1-ol	71-36-3	2-8

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause cancer.

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Section 16 Other information

Key to abbreviations:

MAC --Maximum Allowable Concentration: refers to the concentration of toxic chemicals that should not exceed at any time during a working day in the workplace.

PC-TWA -- Permissible Concentration-Time Weighted Average: refers to the average level of allowable contact in the stated working day of 8 hours.

PC-STEL ---Permissible Concentration- Short Term Exposure Limit： refer to the time weighted average for any allowable contact less than 15 minutes within 8 hours.

ACGIH TWA--- American Conference of Governmental Industrial Hygienists- Time weighted average

ACGIH STEL--- American Conference of Governmental Industrial Hygienists- Short Term Exposure Limit

$LD_{50:}$ It refers to lethal dose with oral and dermal exposure. In statistics, it is expected to cause 50% individual deaths in a group of subjects.

$LC_{50:}$ It refers to lethal concentration with respiration inhalation. In statistics, it is expected to cause 50% individual deaths in a group of subjects.

$EC_{50:}$ It refers to the concentration that can cause the 50% of maximal effect.

References:

1. Zhou Guotai, *Hazardous chemicals safety technology*, Chemical Industry Press, 1997.

2. State Environmental Protection Administration of toxic chemicals management &the Beijing Institute of chemical research, *Handbook of Environmental Data for Environmental Regulations*, China Environmental Science Press, 1992.

3. Cheng nenglin, *Solvent Handbook*, Chemical Industry Press, 1994.

4. Canadian Centre for Occupational Health and Safety. CHEMINFO Database, 1989.

Disclaimer:

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products, and to recommend precautionary measures for the storage and handling of the products. The users should have their

own ideas about the practical appliance of this MSDS. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the product.