

Material Safety Data Sheet



1. Product Identification & Composition/Information on Ingredients

Chemical name: Ceramic coating
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2. Composition/Information on Ingredients

Chemical Characterization: Mixtures

Ingredients

Trade name	Chemical name	content (wt %)	CAS No.
METHYL ALCOHOL	CH ₃ OH	3.0~4.8	67-56-1
BUTYL CELLOSOLVE	C ₄ H ₉ OCH ₂ CH ₂ OH	0.8~1.0	111-76-2
WATER	H ₂ O	23.5~30.7	7732-18-5
SILICA	SiO ₂	20~21.5	67762-90-7
ALUMINUM OXIDE	Al ₂ O ₃		1344-28-1
CERAMIC MATERIALS AND WARES, CHEMICALS	SiO ₂		66402-68-4
C.I. PIGMENT BLACK 28	Oxide of Cu, Cr		68186-91-4
OTHERS	/	under 0.5	/

3. Product Health Hazard Information

Symbols:



Signal word: warning

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- index(0~3): Health=3 , Flammability=3 , Reactivity=0 , Continuity=0

- NFPA index(0~4) : Health=1 , Flammability=3 , Reactivity=0

① Emergency Overview

- Colored Liquid with distinctive alcohol smell
- May cause irritation on a respiratory organ, skin and eyes
- Flammable liquid and vapor
- May cause explosion
- Should be isolated from all ignitions
- Avoid inhalation of vapor and dust
 - Avoid eye, skin and clothing contact
 - Should be used under proper ventilation
 - To be handled with care

② Potential effect on health

· Inhalation

- Short term exposure

May cause irritation

May cause same effect as swallowed in short term

May cause tinnitus, indigestion, dizziness, hypesthesia, twitch, trouble in visual organ and harm nerve additionally

- Long term effect

same effect as swallowed in short term

May cause headache

· Skin contact

- Short term exposure

May cause irritation

May cause same effect as swallowed in short term

May cause dizziness and harm nerve additionally

- Long term effect

Same effect as swallowed in short term

Same effect as short term exposure

· Eye contact

- Short term exposure

May cause irritation

May harm eyes additionally

- Long term effect

Same effect as short term exposure

· Ingestion

- Short term exposure

May cause trouble in judgement, vomiting, diarrhea, difficult breathing, hypotension , irregular pulse, headache, drowsiness , dizziness, disorientation, auditory trouble, sensitiveness on light

- long term effect

Same effect as swallowed in short term

Same effect as short term exposure

③ Carcinogenesis

· OSHA : NA

· NTP : NA

· IARC : NA

4. First Aid Measures

① Inhalation

· First aid treatment

Move the subject to the fresh airing place from the exposed area

Perform artificial respiration if breathing is stopped

Warm and ease the person who was exposed

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Give general supplementary treatment

Get medical attention immediately

② Skin Contact

· First aid treatment

Take off the polluted clothes and shoes immediately

Wash exposed parts with soap or mild detergent and large amount of water until no remaining trace of chemicals is found(at least 15-20 minutes)

③ Eye contact

· First aid treatment

Raise upper and lower eyelids immediately flushing with large amount of water or saline solution until no remaining trace of chemicals is found(at least 15-20 minutes)

Get medical attention immediately

④ Ingestion

· First aid treatment

Use emetics when found ingestion of NH-3000 within 2 hours

Clean completely using water added with natrium ecarbonate

Get medical attention immediately

Gastrolavage must be performed by doctor or medical assistant

⑤ Information for doctors

· Antidote

The following antidotes are recommended ?usage of antidotes and the quantity should be judged by

doctors or medical assistant

Methanol toxic : oral ingestion of ethanol, 50%, 1.5mL/kg. 5% deluted solution for the first step. 0.5-1.0mL/Kg for 4 days and every two hours by oral ingestion or venous injection to decrease and eliminate Methanol metabolism. Thickness of methanol in blood should be maintained below 1-1.5mg/mL.

Dosage should be done by doctors or medical assistants.

Using 4-methylpyrazole through mouth or dosing into venous hamper alcohol

dehydrogenase and effectively act as antidote for methanol or ethylene glycol toxic.

5. Countermeasure in case of explosion or fire

① Danger of Explosion and Fire

Exposure to heat or spark may cause fire

Vapor is heavier than air and can move far to reach the ignition point and cause reverse flaming

Vapor, air mixture can cause explosion

② Fire extinguishing agents

Powder extinguisher, carbon dioxide, water flush or froth

Use water, fog or froth in case of big fire

③ Extinguishment

Remove the container from the fire spot when possible

Make a hilly spot around the water used for fire control for post action

Cool down the side of container with coolant where exposed to fire when extinguished thoroughly

Stay away from tank

Extinguish if one can control spreading of fire

Use large amount of water in the form of fog

Cool down the container with a large amount of water staying away as far as possible

Do not inhale toxic vapor/steam and stand against wind

· flash point : 11 °C (52 °C, applies correspondingly to methanol which is a containing solvent)

· Highest limit of ignition point : 6.0%(applies correspondingly to methanol which is a containing solvent)

· Lowest limit of ignition point : 36.0%(applies correspondingly to methanol which is a containing solvent)

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· Natural ignition point : 385°C (725°C, applies correspondingly to methanol which is a containing solvent)

· OSHA : IB

④ Harmful combustion product

It may produce toxic carbon oxide when decomposed by heat

6. Spillage and Accidental Release Measures

① Direct spillage

Isolate igniter

Stop spillage if possible

Use water to diminish vapor

If spillage is not substantial, use sand or other absorbent and keep inside the container for post action

If substantial spillage occurs, make a hilly spot far from the front of the point of leakage to coop in for post action

No smoking, spark or fire in dangerous area

Stop access of unnecessary personnel and isolate dangerous area and restricted area

Keep in a dry, clean and proper container for further step after cleanup

Do not let the leaked material drain into sewer

② Soil leakage

Prepare a spot for cooping in such as lagoon, pond or drain pit

Cooping in the hilly spot using soil, sandbag or polyurethane or concrete.

7. Handling and Storage

Abide by all the regulations of central and local governments in storing this product

Isolate this product from materials which can not be in the same place

Store in a manner noted in the manual, Keep in a cool and dry and dark place after sealing

8. Exposure controls and Personal protection

① Ventilation

mount a general type deluted ventilation equipment to meet the regulation for exposure limit

Ventilation equipment must be an explosive proof type.

② Eye protection

Workers(maturing mixture and coating job) should wear safety goggle against dust to prevent eye exposure from this material.

③ Emergency washing

The employer should make washing or rinsing facilities equipped near the workshop in case there is a possibility of workers' eyes or skin exposure to extraneous matters.

④ Protective clothes

Workers (maturing mixture and coating job) should wear appropriate (non-permeable) protective clothes and equipments to prevent possible skin exposure to extraneous matters.

⑤ Protective Gloves

Workers(maturing mixture and coating job) should wear protective gloves to avoid exposure to extraneous matters.

⑥ Protective apparatus for respiration

Wear masks containing active carbon and approved by Korea Occupational Safety and Health Agency(ex. 3M No.9913 for dust and mist, dust proof-76 model)

- Skin contact

Protective apparatus for respiration wearing under the chin, belly or on the back installed with a container for organic solvent and air cleaning type

Proper protective self supporting apparatus for overall protection

- In case of present danger in extinguishing and life

All the overall air-supplied respiratory protective apparatus operated by resistance of inhaler or other bilateral pressures and equipped with supplementary self-supporting respiratory protective apparatus operated by resistance of inhaler or other bilateral pressures.

9. Physical & Chemical Properties

- Look : Colored Liquid with distinctive alcohol smell
- Molecular weight: NA
- Molecular formula: NA
- Boiling point: over 65(149)
- Melting point : over 94 (-137)
- Steam pressure: under 97.25 mmHg(at 20)
- Steam density: NA
- Gravity : 0.9-0.99
- PH: 4 ~6
- Evaporation rate: NA
- Viscosity : 4-6 cP (at 20)
- Solubility (water): good
- Solubility (solvent): Soluble with organic solvent such as alcohol, ketone

10. Stability and Reactivity

1) Reactivity

Exothermic reaction was noted when maturing (maturing NH-3000 A liquid with B liquid)

Stable at room temperature and at atmospheric pressure after maturing

2) Conditions to avoid

Prevent heat, spark or other things which might ignite

Vapor may explode

Avoid vapor ingestion or contact to skin

Avoid water pollution caused by leakage

3) Substance to avoid

- Aethyl Bromide: rapid reaction generating hydrogen bromide

- Alkylaluminium solvent : rapid reaction
- Barium perchlorate: produced alkyl perchlorate with extreme explosiveness after extraction
- Beryllium Hydration: rapid reaction at -196 C
- Bromine: strong Exothermic reaction
- Calcium carbide: rapid reaction
- Chlorine: potential danger of igniting or explosion
- Chloroform and sodium hydroxide : react when exploded

4) Harmful decomposite products

Thermal cracking may emit harmful carbon oxide

5) Polymerization reaction

Polymerization reaction when aged(mixture of NH-3000 A liquid and B liquid)

No dangerous polymerization reaction reported under normal temperature and pressure

Polymerization reaction when vulcanized(dry and vulcanize after applying)

11. Information on toxicity

This information on toxicity is based on 100% methanol standard. Toxicity and irritation shall be referred as below the based standard for NH-3000 with about 10% of methanol.

1) irritation information

-20mg/24hours, skin-rabbit : normal

-40mg, eye-rabbit : normal -40mg,

-100mg/24hours, eye-rabbit : normal

2) toxicity information

-TCL0 : 86000mg/m³, inhalation-human being

-TCL0 : 300ppm, inhalation-human being

-LDL0 : 428mg/kg, oral-human being

-LDL0 : 143mg/kg, oral-human being

-LDL0 : 6422mg/kgm oral-human being

-TDL0 : 3429mg/kg, oral-human being

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-TDLO : 4gm/kg, oral-woman

- mutation information : RTECS

- effect on reproductive system : RTECS

3)Carcinogenesis : NA

4)Effect on parts : irritation-skin, eye

5) Acute toxicity level : comparatively not toxic when inhaled weak toxicity by skin absorption and adoption

6) Effect on target organ : inhibitory on central nervous system ; nerves toxicity

7)Cases which may increase danger when exposed : one who has trouble on kidney, eye or skin

8)Health

Inhalation : 75,000 ppm of anesthetic/tetanospamin 75,000 ppm is harmful

- acute exposure

May cause irriation on mucosa, cough, chest pressure, tracheitis, bronchical trouble, tinnitus, irregular steps, muscle spasm, stomachache, constipation, nystagmus, blepharospasm

Occupational exposure may cause sensory anomaly, disorientation and severe pain on hands and forearm

May acidize metabolizm, affect eye and central nervous system as inhaled acutely

· Eye contact: stimulant

- acute exposure

12. Environmental Information

· Environmental Effect Index(0~4) : NA

· Acute water toxicity : NA

· Resolvability : NA

· Logarithmic (BCF) : NA

· Logarithmic Octane/water distribution coefficient : NA

13. Disposal Consideration

Abide by all the regulations of central government and local government in case of disuse

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Proper disposal is incineration. After complete combustion, remainings(ceramic particle) should be handled by regulated disposal procedure

Incineration should be done with approved incineration equipment

NH-3000 contents should be completely removed in case of discarding container

14. Transportation Information

In case of transportation, completely seal the container to prevent leakage.

Preventive method for falling, conduction and shock should be prepared.

Cooling equipment, air conditioner and shading sheet should be mounted to prevent extreme increase of temperature of the product

15. National Regulations and References

Occupational Safety and Health Act : Organic solvent class 2, Allowable Concentration

Fire Services Act : Dangerous Goods Class 3 Alcohol

16. Others

This MSDS for Ceramic coating is based on MSDS for Methylalcohol which is organic solvent and classified as alcohol .

MSDS for toxic and dangerous materials among ingredients are included additionally. Notice on storage, handling and usage

For inquiries regarding this content, please contact the Hangzhou Jihua Polymer Material Co.,Ltd. at 0+86-571-22868026.