

Material Safety Data Sheet

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1. Manufacturer' s Information

Company name: TiT Co., Ltd.

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2. Product Name: CS- COAT F-200

3. Chemical Information

— Single or mixture: mixture

— Chemical name: Alkoxy silane compounds

— Chemical compositions:

● Main chemical: Alkoxy silane Clear ----- max. 80%

● Pigment and others

- Titanium oxide -----max. 30%

- Silica -----max. 30%

- Complex oxide of Antimony-----max. 5%

- Complex oxide of Nickel-----max. 10%

- Complex oxide of Cobalt-----max. 10%

- Complex oxide of Chrome-----max. 15%

- Complex oxide of Copper-----max. 10%

- Complex oxide of Manganese-----max. 12%

4. Hazard information

— Harmfulness: swallowing---harmful

eye and skin contact --- stimulative

mucous membrane ---- stimulative

vapor respire-----harmful by methanol on hardening

— Environmental impact: no data available

— Chemical & physical hazard: flammable

— Specific danger & hazard: not specified

- Classification of hazard: flammable liquid and harmful, methanol generated by hydrolysis is acute toxic

5. Emergency measures

- Respiration: respire clean air and lie quietly and keep body warm, then seek medical attention.
- Skin contact: wash with flowing clean water or slightly warm water.
- Eye contact: wash with flowing clean water and then seek medical attention.
- Swallowing: spit out residuals, wash in the mouth and seek medical attention.

6. Measures to fire

- Extinguisher: powder, CO₂ and foam agents
- Prohibited agents: no
- Specified harm and toxic at fire: no
- Specified extinguishing way: remove fire source and cool down around the fire by water spray not to extend the fire. Fire fighting should be done from the windward.
- Protection: respirator to be put according to the situation

7. Measures to leakage

- Cautions for human: prohibit to come near the leakage place using ropes around the leakage section except persons concerned.
- Persons who treat leakage should put rubber gloves, goggles and protection cloths.
- Report the leakage accident to fire-fighting office, police office and other relating public office.
- In case of great amount of leakage, prevent flowing out by heaping up soil around the leakage place.
- Removal: in case of small amount leakage, wipe with papers and cloth and burn up. In case of large amount, scoop up by shovel and enter into vessel.
- prevention of secondary disaster: remove fire source nearby, and prepare fire-fighting tools and equipment.

8. Cautions on handling and storage

- As methanol is generated when hardening, fire, spark and high tempered material should be strictly prohibited around the handling place. Electric appliance should be of explosion-proof type.
- Coating works should be done with protection tools, and against methanol, coating works should be done at well ventilated place.

- Storage: keep in a cool and dark room after tightly sealing vessel and from the view point of quality keeping, should not be stored in humid room.

9. Measures for exposure avoidance

- Explosion-proof ventilation equipment should be locally prepared in closed room.
- Control concentration: not yet specified.
- Permissible concentration: not yet specified.
- Protection device
 - For respiration: Dust-proof mask for mist respiration. In bad ventilated place, organic gas mask for methanol should be put on.
 - For eyes: protection glasses of ordinary type or goggle type
 - For hands: polyethylene or rubber gloves
 - For skin and body: put on a long sleeve wear
 - Suitable measures for sanitation: carry out strictly putting protection tools and wears, and after working carry out gargle and rinse attached coating paint.

10. Physical and chemical properties

- Appearance: designated color by customer
- Ignition point: 36.9°C
- Combustibility: no data available
- Solubility: main chemical is difficult to dissolve in water, but dissolve in alcohol solvent. Pigment does not solve in liquid.

11. Stability and reactivity

- Stability: stable in the ordinary handling conditions.
- Reactivity : not self-reactive and not naturally combustible.
- Conditions and materials to be prevented: non
- Harmful product: methanol will be generated at hardening reaction.

12. Information on harmfulness

No data available until now.

Antimony used for pigment is not recognized as a carcinogenic substance by IRCA (International Agency for Research on Cancer) and JSOH (Japan Society for Occupational Health) and also antimony complex oxide pigment is a stable and uniform crystal structure. Chrome complex oxide

pigment is also a stable and uniform crystal structure, Therefore, we do not indicate them as harmful chemicals .

13. Environmental impact information

No data available until now. However, leakage and waste substances may affect on the environment, so careful attention should be paid.

14. Consideration on disposal

- Coating agents and its vessel shall be wasted by industrial waste management contractor authorized by the local government.
- Water used for rinsing vessels and equipment should not be wasted to the ground, river and drainage without any treatment.
- In case of burning out, waste should be burned in an incinerator, or ask for industrial waste management contractor authorized by the local government.
- Disposal of wastes must comply with the local laws and regulations relating to disposal and cleaning.

15. Consideration on transportation

On transportation of this material, attention to be paid to leakage out of the container, upset and falling down and failure when loading.

16. Applied laws and regulations

- Fire Defense Law: flammable liquid, 2nd petroleum of Class 4 (water insoluble)
- Occupational Health and Safety Law: according to Article 57-1, Dangerous Substance
- PRTR: the first kind of designated chemical substance
- UN Classification: Class 3, No. 1263

17. Others

- Bibliographies
 - Chemicals and Regulations Handbook, published by the Daily Report on Chemical Industries
 - Material Safety Data Book : edited by the Committee on Chemical Safety Information,
 - Chemical Management Promotion Act and All Data Substances

published by the Daily Report on Chemical Industries

—Notices

- The described contents, properties, etc. are not considered to be guaranteed values. The cautions are formulated based on the usual handling conditions, and therefore, when special use of the product is intended, safety measures shall be newly prepared based on each use.
- The data and the evaluation results of hazards and toxicity written in this MSDS are not fully adequate, and therefore, Caution is demanded when handling this product.