



Coatings & Coatings (India) Pvt. Ltd.

MANUFACTURERS & EXPORTERS OF WOOD COATINGS, AUTO REFINISHES & ETHYL ALCOHOL

Corporate Office

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1. IDENTIFICATION:

COMMERCIAL PRODUCT NAME: Retarder (Ethanol or Ethyl Alcohol Based Retarder)

FORM: Liquid

COLOUR: Colorless

ODOR: Characteristic

2. COMPOSITION INFORMATION:

INGREDIENT NAME: Ethanol : 90 - 95

CHEMICAL FORMULA: C₂H₅OH

MOLECULAR WEIGHT: 46.07

CAS NO: 64-17-5

EU INDEX NO: 603-002-00-5

ACETONE : 84-66-2 : 1 - 5

WATER : 5 - 7

DENATONIUM SACRIDE : 0.002

3. HAZARDS IDENTIFICATION:

HIGHLY FLAMMABLE (R16 S43)

FLASH POINT: (R11) 9°C

IGNITION TEMPERATURE: 425°C

EXPLOSION LIMITS: LOWER: 3.5%v/v UPPER: 19%v/v

PROTECTION AGAINST FIRE & EXPLOSION:

Combustible vapours heavier than air. May form explosive mixtures with air.

Take measures to prevent electrostatic charges.

4. FIRST AID MEASURES:

4.1 SKIN CONTACT (S24)

Irritating to skin. Remove affected person from source of contamination.

Wash contaminated skin promptly with soap or mild detergent and water.

Remove clothing promptly, if soaked through, and wash as above.

4.2 EYE CONTACT (S25)

Irritating to eyes. Can be damaging if large amount is splashed into eyes.

Wash eyes promptly with plenty of water, while lifting the eye lids.

Continue to rinse for at least 15 minutes, and get medical attention.

4.3 **INGESTION**
Intoxicating if ingested. (If ingested in undiluted form, it has a severe drying effect on mucous membranes of mouth and throat.)
NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS.
Wash out mouth thoroughly, and give plenty of water to drink.
Do not induce vomiting. Get medical attention immediately.

4.4 **INHALATION**
Occupational exposure limits (8-hour reference period) 1000 ppm (1900 mg/m³). Intoxicating if continuously inhaled for a long period of time. Move the person to fresh air, immediately perform artificial respiration if breathing has stopped. When breathing is difficult, properly-trained personnel may administer oxygen. Keep the person warm and at rest. Get medical attention promptly.

5. FIRE FIGHTING MEASURES :

5.1 EXTINGUISHING MEDIA

Use extinguishing media appropriate for surrounding fire. Water, dry chemicals, (BC or ABC powder), CO₂, sand, dolomite, etc. Foam.
DO NOT extinguish fire unless flow can be stopped first.

5.2 SPECIAL FIRE FIGHTING PROCEDURES

Keep upwind. Shut down all possible sources of ignition.
Water may be ineffective but use to keep fire-exposed containers cool.
Keep run-off water out of sewers and water sources. Dike for water control.
Avoid water in straight hose stream; will scatter and spread fire. Use spray or fog nozzles. Cool containers exposed to flames with water from the side until fire is out. Move container from fire area if it can be done without risk. If well after the risk of water pollution occurs, notify appropriate authorities.

5.3 UNUSUAL FIRE & EXPLOSION HAZARDS

Makes explosive mixtures with air. Extremely flammable. May explode in a fire. May travel considerable distance to source of ignition and flash back.

5.4 HAZARDOUS DECOMPOSITION PRODUCTS

Gases of:
Carbon monoxide (CO)
Carbon dioxide (CO₂)

6. ACCIDENTAL RELEASE MEASURES :

SPILL CLEANUP METHODS

Ventilate well, stop flow of vapour or liquid if possible. Shut off or remove all possible sources of ignition. Do not allow chemical to enter confined spaces such as sewers due to explosion risk. Sewers designed to preclude formation of explosive concentrations of vapour may be Permitted. Absorb small quantities with paper towels and evaporate in safe place (fume hood). Allow sufficient time for vapours to completely clear the hood ducts, then

burn the paper in a location away from combustible materials.
Collect for reclamation or absorb in vermiculite, dry sand or similar material.
Clean-up personnel should use respiratory and/or liquid-contact protection.
Provide ventilation and confine spill.
Do not allow runoff to sewer.

7. HANDLING AND STORAGE :

7.1 USAGE PRECAUTIONS

Keep away from heat, sparks and open flame.
Avoid spilling, skin and eye contact.
Ventilate well, avoid breathing vapours.
Use approved respirator if air contamination is above acceptable level.
Do not use contact lenses.

7.2 STORAGE PRECAUTIONS

Flammable/combustible. Keep away from oxidizers, heat and flames.
May attack some plastics, rubber and coatings.
Keep in cool, dry, ventilated storage and closed containers.
Ground the container and transfer equipment to eliminate static electric sparks.

7.3 STORAGE CRITERIA

Flammable liquid storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION :

8.1 VENTILATION

Store in a well-ventilated area.

8.2 RESPIRATORS

No specific recommendation made, but respiratory protection must be used if
The general level exceeds the Occupational Exposure Level (OEL).

8.3 PROTECTIVE GLOVES

Use protective gloves made of butyl rubber.

8.4 EYE PROTECTION:

Wear approved chemical safety goggles where eye exposure is reasonably
probable. Contact lenses should not be worn when working with this chemical!

8.5 OTHER PROTECTION

Use engineering controls to reduce air contamination to permissible exposure
level. Provide eyewash station and safety shower. Wear appropriate clothing
to prevent repeated or prolonged skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES :

APPEARANCE: Liquid. Clear. Hygroscopic.

COLOUR: Colourless.

ODOUR/TASTE: Characteristic. Pleasant, agreeable.

SOLUBILITY DESCRIPTION: Miscible with water. Soluble in most organic solvents.

BOILING POINT (°C): ~78

MELTING POINT (°C): -117.3

SPECIFIC GRAVITY (water = 1): 0.79 @ 20°C

VAPOUR DENSITY (air = 1): 1.59

VAPOUR PRESSURE: 44 mm Hg @20°C

EVAPORATION RATE: 3.10

VOLATILE BY VOL. (%): 100

VISCOSITY: 1.19 cps @ 20°C

FLASH POINT (°C): ~13 (Closed-cup method)

AUTO IGNITION TEMPERATURE (°C): 422

FLAMMABILITY LIMIT (lower %): 3.3

FLAMMABILITY LIMIT (upper %): 19

pH VALUE: Neutral

10. STABILITY AND REACTIVITY :

STABILITY: Avoid heat, sparks, flames. Normally stable.

CONDITIONS TO AVOID: Reacts strongly with alkali metals, alkaline earths, oxidizing, Agents (such as: Perchlorates, CrO₃, halogen oxides, peroxy compounds, perchloric acid, non-Metallic, oxides, nitric acid, KMnO₄, salts of halogen, oxyacids), halogen-halogen compounds, alkali oxides, non-metallic halides anhydrides/sodium acetate/acids ethylene oxide, fluorine, hydrides, mercury compounds, silver compounds, chromyl chloride, UF₆; capable of exploding with air in a vaporous/gaseous state.

HAZARDOUS POLYMERIZATION: Will not polymerize.

MATERIALS TO AVOID: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: Vapours/gases/fumes of: Carbon monoxide (CO). Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION :

TOXIC DOSE 1-LD₅₀: 7060.00 mg/kg (oral rat)

HEALTH WARNINGS: Vapour is harmful on prolonged exposure or in high concentration. When in a concentration of more than 50%, ethanol causes local mucosal lesions through dehydration and albumin precipitation. Absorption, which occurs swiftly from the gastrointestinal tract, causes euphoria, with, subsequent dizziness, inebriation, paralysis diminished reflex, excitability, cyanosis, narcosis and respiratory paralysis. Dangerous intolerance reactions and increased absorption occur through the simultaneous action of disulfiram, trichloroethylene, tetra-chloromethane, trobenzene, carbondisulfide, aniline, lime-nitrogen, arsenic, lead and mercury. CNS depressant. Repeated exposure may cause chronic eye irritation Defatting, drying and cracking of skin. Mild matitis, allergic

skin rash. Swallowing concentrated chemical may cause severe internal injury. MEDICAL

SYMPTOMS: Rhinitis (inflammation of the nasal mucous membranes). Upper respiratory irritation. Skin irritation. Nausea, vomiting.

MEDICAL CONSIDERATIONS: Convulsive disorders, CNS problems.

12. ECOLOGICAL INFORMATION :

Ethanol is biodegradable and has not been shown to interfere in any way with waste Water treatment plants. In high concentrations it harms fish and plankton. 9,000 mg/l kills fish in 24 hours; threshold for deleterious effects in small crustaceans (Daphnia): upwards of 7,800 mg/l. Toxic threshold concentration: *Pseudomonas putida* upwards of 6,500 mg/l, *Scenedesmus quadricauda* upwards of 5,000 mg/l, *Microcystis aeruginosa* upwards of 1,450 mg/l. Fish toxicity: LC50>10,000 mg/l.

13. DISPOSAL CONSIDERATIONS:

It may run into process drains if greatly diluted with water. It may be removed to open atmosphere for dissipation of vapours. May absorb in vermiculite or dry sand, and then dispose in licensed special waste site. Dispose of in accordance with Local Authority requirements.

14. TRANSPORT INFORMATION:

LABEL FOR CONVEYANCE: Flammable Liquid 3

ROAD TRANSPORT:

UN No: 1170

ADR CLASS No: 3

ADR ITEM No: 3(b)

ADR LABEL No: 3

HAZCHEM CODE: 2YE

CEPIC TEC(R) No: 32

RAIL TRANSPORT:

RAIL TRANSPORT CLASS No: 3

RAILROAD PT: 3b

SEA TRANSPORT:

SEA TRANSPORT CLASS No: 3.2

IMDG Page No: 3074

SEA PACK GR: II

AIR TRANSPORT:

AIR TRANSPORT CLASS No: 3

AIR PACK GR: II

15. REGULATORY INFORMATION :

EEC (EINECS) No: 200-578-6

LABEL FOR SUPPLY: Highly Flammable

RISK PHRASES: R-11 Highly flammable.

SAFETY PHRASES:

S-2 Keep out of the reach of children.

S-7 Keep container tightly closed.

S-16 Keep away from sources of ignition - No Smoking.

UK REGULATORY REFERENCES:

Highly Flammable Liquid Regulations 1972.

Health and Safety at Work Act 1974.

The Control of Substances Hazardous to Health Regulations 1988.

EC DIRECTIVES:

Substances Directive 67/548/EEC as amended by 69/81/EEC,
709/189/EEC,73/146/EEC,75/409/EEC,79/831/EEC General Preparations Directive
88/379/EEC.European Communitie (Classification, Packaging, Dangerous Substances)
Regulations 1994. S.I. No. 77 of 1994.Dangerous Substances (Conveyance of
Scheduled Substances by Road) (Trade of Business) Regulations, 1980. S.I. No. 235
of 1980. Safety, Health and Welfare at Work (Chemical Agents) Regulations,
1994. S.I. No. 445 of 1994.

STATUTORY INSTRUMENTS:

The Health and Safety at Work, etc., Act 1974. C.H.I.P. 2 Regulations

APPROVED CODE OF PRACTICE: The Control of Substances Hazardous to Health.

GUIDANCE NOTES: Occupational Exposure Limits EH40.

16. OTHER INFORMATION:

INFORMATION SOURCES:

Dangerous Properties of Industrial Chemicals, 6. edition, N.Sax, 1984.

Handbook of Toxic and Hazardous Chemicals and Carcinogens, Sittig, 1985.

Material Safety Data Sheet, Misc. manufacturers.The Merck Index, 11. edition, 1989.

Chemical Safety Data Guide, Bureau of National Affairs, 1985.

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

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