Material Safety Data Sheet
Renner Protective Coatings

1 - PRODUCT AND COMPANY IDENTIFICATION

Product: **UNYMARINE FINISH/RETHANE DHG 652 WHITE CS-651** Code: 6522141
RECOMMENDED USE: Corrosion Protection.

Manufacturer's name: RENNER HERRMANN S.A.
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2 - HAZARD IDENTIFICATION

Chemical product classification:
Flammable liquid - category 3
Acute toxicity (oral) - Category 4
Acute Toxicity - Inhalation - Category 4
Corrosive / Irritating to skin - Category 2
Serious eye damage / Eye irritation - Category 2A
Carnicogenicity - Category 2
Aspiration hazard - Category 1
Danger to the aquatic environment - Acute - Category 1
Systemic toxicity to the target organ after single exposure - Category 1 and 3
The ingredients were classified according to ABNT NBR 14725-2.

WORD OF CAUTION: Danger

DANGEROUS PHRASES:
H332 - Harmful if inhaled
H312 - Harmful in contact with the skin - Hazard category 1B
H302 - Harmful if ingested.
H373 - May cause damage to organs through prolonged or repeated exposure
H319 - Causes serious eye irritation
H335 - Irritating to respiratory system
H400 - Very toxic to aquatic life.
H411 - Toxic to aquatic life with long lasting effects.
H300 - Fatal if swallowed.
H351 - Suspected of causing cancer.
H226 - Flammable liquids and vapors.

PRECAUTIONARY PHRASES:
P102 - Keep out of the reach of children.
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P210 - Keep away from sources of ignition. No smoking.
P260 - Do not breathe dust/fume/gas/mist/vapours/spray.
P262 - Do not get in eyes, on skin, or on clothing.
P270 - Keep away from food, drink and animal feedingstuffs.
P273 - Do not empty into drains.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P281 - Use personal protective equipment as required
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P501 - Dispose of contents/container in accordance with applicable regional, national and local laws and regulations

EFFECTS OF OVEREXPOSURE:

INGESTION:
Toxicity of a single oral dose is considered low. The accidental ingestion of small quantities related to the handling of the product is not expected to cause any harm. If inhaled (liquid goes into lungs), it may cause damage to the lungs due to chemical pneumonitis, which is caused by petroleum and petroleum-based solvents.
It might be dangerous if paint film or dry paint film is chewed or swallowed.

EYES:
In case of prolonged exposure, it may cause severe eye irritation, redness, burning sensation, visual disturbances and itching.

SKIN:
The prolonged contact with skin may cause allergic reactions, dryness, lesion, and contact dermatitis.

INHALATION:
Irritation of respiratory system, besides headache, dizziness and nausea. Inhalation of high concentration may lead to loss of coordination and weakening. Continuous exposure to sanding dust may also lead to respiratory and skin problems.

3 - COMPOSITION / INFORMATION ON INGREDIENTS

PRODUCT TYPE: Solvent-based acrylic

Chemical Name	CAS Number	Concentration Range (%)
Acetate Ether Glycol	111-15-9	1,0 – 5,0
Mixed xylene	1330-20-7	5,0 – 15,0

CHEMICAL NATURE: Solvent-based acrylic paint
Hazardous ingredients: CLASSIFICATION SYSTEM: The ingredients were classified according to Guideline 67/548/EEC.

4 - FIRST AID MEASURES

INHALATION:
If inhaled, move to fresh air. Aid in breathing (mouth-to-mouth respiration), if necessary, and get medical attention.

SKIN CONTACT:
Remove contaminated clothing; wash affected skin with flowing water and soap. If the product adheres to skin and it is difficult to remove it with water, use vaseline, mineral oil or vegetal oil. If symptoms persist. Get medical attention.

EYE CONTACT:
Flush eyes with large amounts of water, for at least 15 minutes, maintaining the eyelids open. Get urgent medical attention.

INGESTION:
Do not induce vomiting. If the victim is unconscious, and vomiting occurs involuntarily, turn the victim sideways, and see that he/she rests. Get urgent medical attention. If swallowed large quantity of liquid or solid material, it may be necessary to proceed with gastric washing up. Drink water or milk.

ACTIONS TO BE AVOIDED:
Skin contact.

DESCRIPTION OF MAIN SYMPTOMS AND EFFECTS:
Throat irritation in case of long-term exposure to vapours.

PROTECTION OF FIRST AID APPOINTED PERSON:
In case of accidents of great proportions, the first aid provider shall have full protective equipment available. Remove contaminated clothing.

INFORMATION FOR PHYSICIANS:
Gastric wash up is necessary, especially in children, when large quantities of the product are swallowed, or when there is an association of solvent with other toxic product, such as heavy metals. Proceed with gastric wash up only after the person has been intubated. Gastric decontamination is indicated when dry paint is swallowed.

SYMPTOMATIC TREATMENT:
If possible, contact a Toxicological Center.

5 - FIRE FIGHTING MEASURES

SUITABLE EXTINGUISHING MEDIA:
Dry chemical, carbon dioxide or foam. Water spraying may also be used, although not so effective. Besides, water spraying may be used to cool the container.

UNSUITABLE EXTINGUISHING MEDIA:
Water jetting.

SPECIFIC HAZARDS:
Flammable product. The product combustion may release irritating and poisonous gases such as monoxide and carbon dioxide, cyanate, sulphureous anhydride, and nitrous gases. Closed containers may explode when exposed to extreme heat. In case of fire, water spraying may be used to cool the containers. Keep containers closed when not used.

SPECIAL METHODS:
Cool containers that are close to the fire with water spraying.

FIREFIGHTER PROTECTION:
Wear appropriate individual protective equipment and respirator.

6 - ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:
Putting people safe. Avoid direct contact with the product. Ventilate the area and avoid contact with skin, eyes and mucous.

ENVIRONMENT PRECAUTIONS:

METHOD FOR CONTAINMENT AND CLEANING:
If large quantity leaks, remove liquid using inert absorbing material, such as sand, vermiculite, etc. Avoid that the product gets in contact with soil, rivers and lakes.

DISPOSAL:
Remove contaminated diking material and transfer to an emergency tank. Store product in properly labeled emergency container (labeled) and closed for recycle or disposal. Consult a local expert for advice on the disposal of this material. Ensure that disposal is in compliance with local, national.

REMOVAL OF IGNITION SOURCES:
Flammable product. Keep away from any ignition sources (flames, sparks, etc), and turn off any equipment or electrical networks that may be in contact with the product.

DUST CONTROL:

Unnecessary as the product is liquid.

ALARM SYSTEM:
If waters are contaminated, inform governmental local authorities.

PREVENTION FOR SECONDARY HAZARDS:
Containers shall not be reused. They must be disposed of or recycled according to local legislations.

7 - HANDLING AND STORAGE

HANDLING:

PERSONAL PROTECTION:
Handle the product only in well-ventilated area, and wear proper personal equipment (see item 8). Do not throw nor let the product container to drop. The container must be kept closed when not in use. After using the product, and before ingesting any type of food, smoking or using toilet, wash hands properly.

FIRE AND EXPLOSION PREVENTION:
The product contains volatile organic solvents and fuel. Keep containers well closed, protected from heat sources, and distant from any ignition sources.

PRECAUTIONS FOR SAFE HANDLING:
Wear proper personal equipment.

RECOMMENDATION FOR SAFE HANDLING:
Avoid contact with skin, mucous and eyes.
Handle the product only in well-ventilated areas.
Do not reuse container.
Do not smoke, eat or drink in the handling area.

STORAGE:

TECHNICAL MEASURES:
Keep containers well closed, protected from intense heat. Do not store near food. Keep children away from the product.

STORAGE CONDITIONS:
Proper: Sheltered, cool, dry and ventilated areas.
Conditions to avoid: Avoid storing it where there is strainer or any other form of drainage nearby as it may infiltrate into wastewater drainage and / or sewers.

INCOMPATIBLE PRODUCTS AND MATERIALS:
Do not store it near corrosive and/or toxic products, organic peroxides, materials of spontaneous combustion and radioactive materials.

SAFE MATERIALS FOR PACKAGING:

Adequate: Metal containers.
Inadequate: Plastic containers

8 - EXPOSURE CONTROL / PERSONAL PROTECTION

SPECIFIC CONTROLS:
Exposure limits:

Chemical Name	TLV/TWA (mg/m3)	TLV/STEL (ppm)	NR 15 (ppm)
Acetate Ether Glycol	5 ppm	NA	78
Mixed xylene	100 ppm	150	78

ENGENEERING CONTROLS:
Provide sufficient ventilation, keeping doors and windows opened for air circulation. Closed environments shall be provided with air exhaustion devices. If it is impossible to provide natural or equipment ventilation, wear respirator with filter for organic vapors.

PERSONAL PROTECTIVE EQUIPMENT:

EYE PROTECTION:
Safety glasses or chemical goggles.

SKIN AND BODY PROTECTION:
Wear body protection to avoid contact with product.

RESPIRATORY PROTECTION:
Wear respirator with filter for organic vapors, with forced ventilation.

PROTECTION FOR HANDS:
Rubber gloves.

THERMAL HAZARDS: Not available

MONITORING RECOMMENDED PROCEDURES:
Labor Ministry regulation standard nº 15, Fundacentro working neatness standards, procedures NIOSH or ACGIH.

9 - PHYSICAL - CHEMICAL PROPERTIES

Product:
Appearance: Fluid
Color: White
Odor: Characteristic
pH: NA
Melting point: not applicable
Boiling point: 143ºC (Xylene)
Flash Point: 17 ºC (Xylene) Flash Point: NA

Evaporation rate (butylacetate=1): 0,6 (Xylene)
Flammability: Gas
Explosion limits (% volume):
Lower Limits: 1,0 Vol. % (Xylene)
Upper Limits: 7,0 Vol. % (Xylene)
Vapor pressure (mmHg at 20ºC): 6,6 (Xylene)
Vapor density (air = 1): 3,66 (Xylene)
Solubility: Water insoluble.
Partition Coefficient: NA
Auto-ignition temperature: NA
Decomposition Temperature: NA
Viscosity: NA
Specific weight: 1,0300 - 1,1300
Mass solids (% mass): 54,00 – 62,00

10 - STABILITY AND REACTIVITY

CHEMICAL STABILITY / REACTIVITY:
Stable under normal conditions of storage and use.
See instructions on sections 5 and 7 on fire hazards.

POSSIBILITY OF HAZARDOUS REACTIONS:
There won't be any dangerous reactions if product is stored, applied and processed correctly.

CONDITIONS TO AVOID:
Avoid high temperatures and contact with oxidizing vehicles, heat and ignition sources.

INCOMPATIBLE MATERIALS OR SUBSTANCES:
Oxidizing materials, strong acids and strong bases.

HAZARDOUS DECOMPOSITION PRODUCTS:
Combustion releases toxic gases such as CO, CO2, NOx and HCN.

11 - TOXICOLOGICAL INFORMATION

TOXICITY

Chemical Name	DL50	CL50	Carcinogenicity	Teratogenicity	Mutagenicity	Toxic Doses
Acetate Ether Glycol	Ingestion, : 2.900 mg/kg	Inhalation: 12100 mg/m3	-	-	-	-
Mixed xylene	Ingestion, : 3500 mg/kg	ND	ND	ND	ND	-

SKIN IRRITATION
Acute: Moderate irritation.
Chronic: Contact for long period may cause dermatitis and skin dryness.

EYE IRRITATION
Acute: Accidents with splatters may result in serious eye irritation especially for the presence of xylene. Acute exposure to large quantities of sanding dust may irritate eye mucosa.
Chronic: There are not any available reports on the toxicity caused by the product.

INHALATION
Acute: Headache, nausea, dizziness, sleepiness and, if exposed to high concentrations, pneumonitis.
Chronic: Neuropsiquiatric alterations reported for xylene. Xylene is also suspected of causing lesion to the auditive nerve.

INGESTION
Acute: Nausea, vomit, diarrhea. Risk of pneumonitis resulting from the ingestion of vomit.
Chronic: Hepatic damages related to ingestion of xylene.

ORGAN TOXICITY - specific target - single exposure:

ORGAN TOXICITY - specific target - repeated exposure:

ASPIRATION HAZARD: Toxic effects resulting from synergy between compounds: the significant presence of several substances, the dust of which may be harmful to lungs, increase the risk of respiratory diseases if exposed inadequately to the product.

ADDITIONAL INFORMATION FOR PHYSICIANS
Consult Toxicological Center.

12 - ECOLOGICAL INFORMATION

ECOTOXICIDAD: Harmful to fauna and flora.

PERSISTENCE AND DEGRADABILITY: Product not degradable.

BIOACCUMULATION POTENTIAL: Not potentially Bioaccumulative.

MOBILITY IN SOIL: All actions shall be taken to work according to local environmental regulations.

ENVIRONMENT EFFECTS: Water insoluble. It may have toxic effects on water life. I may affect soil, by percolation, degrading the quality of the freatic level waters.

13 - TREATMENT AND DISPOSAL CONSIDERATIONS

RECOMMENDED PRACTICES FOR FINAL DESTINATION

PRODUCT: Co-processing, thermal decomposition or industrial earthwork, according to local regulations. Do not dispose of the material in sewerage systems, rivers, lakes and springs.

WASTE MATERIAL: the residue that will not be used anymore shall be disposed of according to local regulations.

USED CONTAINER: it shall not be used again.

14 - TRANSPORT INFORMATION

National and International Recommendation:

LAND:
UN Number: 1263
Hazard class: 3.0
Hazard number: 30
Packaging group: III
Proper shipping name: PAINT

WATERWAYS:
IMDG/GGVSEA/UN Number: 1263
Hazard class: 3.0
Hazard number: 30
Packaging group: III
Proper shipping name: PAINT

AIR TRANSPORT:
UN Number: 1263
Hazard class: 3.0
Hazard number: 30
Packaging group: III
Proper shipping name: PAINT

ENVIRONMENTAL HAZARD: In accordance with item 12.

15 - REGULATORY INFORMATION

Labor Ministry act nº 3214 and its regulatory law nº 15 - amendments 11 and 12 (tolerance limits).
Regulatory law nº 7 - Program of Medical Biological Occupational Health (biological indicators).
Act nº 420, dated February 12,2004 - National Agency for Road Transportation.
IMDG (International Maritime Dangerous Goods) Code, 1998 (classification of hazardous products for sea transportation).
IATA (International Aerial Transport Association - 41 ed. (classification of hazardous products for air transportation).
Regulatory law nº 26 - Labor Ministry.
Law nº 8078, dated September 11, 1990. (Consumer Guarantees Act).
Guideline 67/548/EEC.

16 - OTHER INFORMATION

Bibliographic references:

ABNT NBR 14725-2
ABNT NBR 14725-3
ABNT NBR 14725-4
NR-26

Abbreviations:
CAS: Chemical Abstracts Service
LC50 - Lethal concentration with 50% mortality
LD50 - Lethal dose with 50% mortality
LCLo - Lowest lethal concentration.
LDLo - Lowest letal dose
NA: Not applicable
NA: Not available

DEFINITIONS:
TERATOGENIC PRODUCT: In the case of chronic exposure may cause fetal abnormalities or threatened abortions.
MUTAGENIC PRODUCT: In the case of chronic exposure, can cause DNA changes.
PRODUCT CARCINOGENIC: In case of chronic exposure can be carcinogenic.

Note: the information contained herein is based on present experience and knowledge. We accept no responsibility if the information herein are not sufficient nor correct under all circumstances. Customers and users of this product shall consider these data as additional information on the ones they already have, to assure the product correct use and correct disposal of the material; safety and health of employees and customers, and environmental protection. The present MSDS refers exclusively to the described product, and it is not extensive to any other material or process. It is subject to change due to our policy of modification and product development. The information contained herein MSDS is based on documents issued by suppliers of the raw materials used in the preparation.