

MATERIAL SAFETY DATA SHEET

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PRODUCT NAME : GRODAL FRHF 40

I. INGREDIENTS

POLYALKYLENE GLYCOL

II. PHYSICAL PROPERTIES

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|------------------------|---|-------------------|
| 1. APPEARANCE | : | RED LIQUID |
| 2. SP. GRAVITY AT RT | : | 1.05 -1.10 |
| 3. SOLUBILITY IN WATER | : | SOLUBLE |
| 4. OTHER (Ph) | : | 9-10 |
| 5. VISCOSITY @ 40 °C | : | 40 cSt. (TYPICAL) |

III. FIRE AND EXPLOSION HAZARD DATA

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|---------------------------------------|---|---|
| 1. FLASH POINT °C | : | N.A. |
| 2. EXTINGUISHING MEDIA | : | FOAM CO ₂ POWDER., WATER MIST SPRAY. |
| 3s. SPECIAL FIRE FIGHTING PROCEDURES | : | MOVE CONTAINER FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK, KEEP RUN-OFF WATER OUT OF SEWERS AND WATER SOURCES. IF WATER POLLUTION OCCURS, NOTIFY APPROPRIATE AUTHORITIES. TO REDUCE THE RISK OF DRUMS BURSTING, SPRAY WITH WATER TO KEEP COOL. WEAR SELF CONTAINED BREATHING APPARATUS. WEAR FULL PROTECTIVE CLOTHING. |
| 4. UNUSUAL FIRE AND EXPLOSION HAZARDS | : | DO NOT ALLOW RUN OFF FROM FIRE FIGHTING TO ENTER DRAINAGE SYSTEM |

IV. HEALTH HAZARD DATA

EFFECTS OF ACUTE EXPOSURE :

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|---------------|---|--|
| 1. INHALATION | : | VAPOUR MAY IRRITATE RESPIRATORY TRACT. |
| 2. INGESTION | : | MAY CAUSE IRRITATION TO MOUTH, THROAT. |

- 3. SKIN : IRRITATION TO SKIN
- 4. EYES : IRRITATION TO EYES
- 5. CHRONIC EXPOSURE : NO ADVERSE REPORT
- 6. CARCINOGEN REFERENCE : NO REPORTED REFERENCE

V. EMERGENCY AND FIRST AID PROCEDURES
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- 1. INHALATION : MOVE THE EXPOSED PERSON TO FRESH AIR AT ONCE. KEEP THE AFFECTED PERSON WARM AND AT REST. GET PROMPT MEDICAL ATTENTION. WHEN BREATHING IS DIFFICULT, PROPERLY TRAINED PERSONNEL MAY ASSIST AFFECTED PERSON BY ADMINISTERING 100% OXYGEN. PERFORM ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED .
- 2. INGESTION : NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS ! RINSE MOUTH THOROUGHLY. DO NOT INDUCE VOMITING. GET MEDICAL ATTENTION IMMEDIATELY.
- 3. EYES : PROMPTLY WASH EYES WITH LOTS OF WATER WHILE LIFTING THE EYE LIDS. CONTINUE TO RINSE FOR AT LEAST 15 MINUTES AND GET MEDICAL ATTENTION.
- 4. SKIN : REMOVE AFFECTED PERSON FROM THE SOURCE OF CONTAMINATION. PROMPTLY ALL AFFECTED SKIN WITH SOAP AND WATER. SEEK MEDICAL ATTENTION.

VI. PRECAUTION FOR SAFE HANDLING AND USE

- 1. SPILL PROCEDURES : INFORM AUTHORITIES IF LARGE AMOUNTS ARE INVOLVED, EXTINGUISH ALL IGNITION SOURCES. AVOID SPARKS, FLAMMES, HEAT AND SMOKING. VENTILATE. STOP LEAK IF POSSIBLE WITHOUT RISK.WEAR FULL PROTECTIVE CLOTHING AND SUITABLE RESPIRATORY PROTECTION. PREVENT THE SOLUTION FROM ENTERING DRAINS OR WATERCOURSES BY USE OF SAND OR EARTH. INFORM LOCAL AUTHORITIES IF THIS CAN NOT BE PREVENTED. ABSORB WITH VEMICULITE, DRY SAND OR EARTH AND PLACE INTO SUITABLE CONTAINERS. CLEAN PREFERABLY WITH A SUITABLE DETERGENT. AVOID THE USE OF SOLVENTS WHEN SPILLAGE IS CLERAED FLUSH THE AREA WITH WATER. WASH THOROUGHLY AFTER DEALING WITH THE SPILLAGE.

2. STORAGE AND HANDLING PRECAUTION : STORE AT MODERATE TEMPERATURE IN DRY, WELL VENTILATED AREA. PROTECT FROM FROST AND EXTREMES OF TEMPERATURE. STORE BETWEEN 5 AND 35 DEG.C.
3. ADDITIONAL INFORMATION : AVOID SPILLING, SKIN AND EYE CONTACT. DO NOT USE IN CONFINED SPACES WITHOUT ADEQUATE VENTILATION AND/OR RESPIRATOR. AVOID CONTACT WITH ALKALIES AND ALKALINE MATERIALS. AVOID CONTACT WITH ACIDS AND ACIDIC MATERIALS. AVOID CONTACT WITH STRONG OXIDISING AGENTS. THIS PRODUCT CONTAINS A BLOCKED ISOCYANATE WHICH ON STOVING GIVES OFF TRACES OF THE PARENT ISOCYANATE INTO THE ATMOSPHERE. EFFICIENT EXTRACTION MUST BE PROVIDED ON THE OVEN TO REMOVE VAPOURS AWAY FROM THE WORKPLACE TO A SAFE AREA.

VII. CONTROL MEASURES

1. VENTILATION : PROVIDE ADEQUATE GENERAL AND LOCAL EXHAUST VENTILATION.
2. RESPIRATOR : NO SPECIFIC RECOMMENDATIONS MADE, BUT RESPIRATORY PROTECTION MUST BE USED IF THE GENERAL LEVEL EXCEEDS THE OCCUPATIONAL EXPOSURE LEVEL (OEL). EXPOSURE SHOULD BE AVOIDED / CONTROLLED BY VENTILATION OR EXTRACTION. IF EXPOSURE LIMITS ARE LIKELY TO BE EXCEEDED WEAR CHEMICAL RESPIRATOR WITH SUITABLE ORGANIC VAPOUR CARTRIDGE. WHEN SPRAY APPLYING, RESPIRATORY EQUIPMENT WITH POSITIVE AIR SUPPLY SHOULD BE USED IN CASES OF INSUFFICIENT VENTILATION OR WHERE OPERATIONAL PROCEDURES DEMAND IT.
3. EYE PROTECTION : WEAR SUITABLE EYE PROTECTION TO SAFETY GLASSES WITH SIDE SHIELDS ARE RECOMMENDED.
4. GLOVES : USE PROTECTIVE GLOVES MADE OF RUBBER OR PLASTIC
5. OTHER PROTECTIVE CLOTHINGS : WEAR APPROPRIATE CLOTHING TO PREVENT REASONABLY PROBABLE SKIN CONTACT. USE ENGINEERING CONTROLS TO REDUCE AIR CONTAMINATION TO PERMISSIBLE LEVEL. PROVIDE EYEWASH STATION AND SAFETY SHOWER.
6. WORK HYGENIC PRACTICES : N.A.

8. ADDITIONAL INFORMATION : N.A.

VIII. REACTIVITY DATA

1. STABILITY : NORMALLY STABLE
2. CONDITIONS TO AVOID : AVOID EXCESSIVE HEATING
3. INCOMPATIBILITY (MATERIALS TO AVOID) : ACIDIS AND ACIDIC MATERIALS, ALKALIES AND ALKALINE MATERIALS, OXIDISING AGENTS.
4. HAZARDOUS DECOMPOSITION PRODUCTS : FIRE CREATES ACRID SMOKE / FUMES OF CARBON DIOXIDE (CO₂) CARBON MONOXIDE (CO) NITROUS GASES (NOX)
5. HAZARDOUS POLYMERIZATION : UNKNOWN
6. ADDITIONAL INFORMATION : N.A.

IX. ADDITIONAL INFORMATION

NA	: Not Applicable	PEL	: OSHA Permissible Exposure Limit
NI	: Not Relevant Information Available	TLV	: ACGIH Threshold Limit Value
T.S	: Trade Secret as per 29 CFR 1910.1200	NTP	: National Toxicology Programme
CAS	: Chemical Abstract Service	IARC	: Int'l Agency for research on cancer

DISCLAIMERS : Some of the information presented and conclusion drawn herein are from sources other direct test data on the product itself. The information in this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness.

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