



September 9, 2006

MATERIAL SAFETY DATA SHEET DINASAL DRY

DATE: 09/30/92

N/A = NOT APPLICABLE OR NOT AVAILABLE

N/E = NOT ESTABLISHED

SECTION 1. PRODUCT IDENTIFICATION

PRODUCT NAME: FORMALDEHYDE, 37% SOLUTION

COMMON SYNONYMS: FORMALIN; METHYLENE OXIDE; METHYL ALDEHYDE; METHANAL

CHEMICAL FAMILY: AQUEOUS SOLUTIONS

FORMULA: HCHO

FORMULA WT.: 30.03

CAS NO.: Proprietary

NIOSH/RTECS NO.: LP8925000

PRODUCT USE: Feed additive

PRECAUTIONARY LABELING

DINATEC SAF-T-DATA* SYSTEM: HEALTH=3 SEVERE (CANCER CAUSING);

FLAMMABILITY=2 MODERATE; REACTIVITY=2 MODERATE; CONTACT=3

SEVERE (CORROSIVE)

LABORATORY PROTECTIVE EQUIPMENT: GOGGLES AND SHIELD; LAB

COAT AND APRON; VENT HOOD; PROPER GLOVES; CLASS B

EXTINGUISHER

U.S. PRECAUTIONARY LABELING:

POISON DANGER. CAUSES BURNS. COMBUSTIBLE. MAY BE FATAL IF SWALLOWED OR INHALED.

NOTE: REPORTED AS CAUSING CANCER IN LABORATORY ANIMALS. EXERCISE DUE CARE.

EXCEPTIONAL HEALTH AND CONTACT HAZARDS: READ MATERIAL SAFETY DATA SHEET.

KEEP AWAY FROM HEAT, SPARKS, FLAME. DO NOT GET IN EYES, ON SKIN, ON CLOTHING. AVOID

BREATHING VAPOR. KEEP IN TIGHTLY CLOSED CONTAINER. USE WITH ADEQUATE VENTILATION.

WASH THOROUGHLY AFTER HANDLING. IN CASE OF FIRE, USE WATER SPRAY,

ALCOHOL FOAM, DRY CHEMICAL, OR CARBON DIOXIDE. FLUSH SPILL AREA WITH WATER SPRAY.

INTERNATIONAL LABELING:

TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.

POSSIBLE RISK OF IRREVERSIBLE EFFECTS. MAY CAUSE

SENSITIZATION BY SKIN CONTACT. KEEP OUT OF REACH OF

CHILDREN. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP AND WATER. IN

CASE OF CONTACT WITH EYES,

RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. USE ONLY IN WELL

VENTILATED AREAS.

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)

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SECTION 2. COMPONENTS

COMPONENT: FORMALDEHYDE
WEIGHT %: 37 - 38
OSHA/PEL: 0.75 PPM
ACGIH/TLV: 1 PPM
COMPONENT: METHANOL

WEIGHT %: 10 -15
OSHA/PEL: 200 PPM
ACGIH/TLV: 200 PPM
COMPONENT: WATER
WEIGHT %: 47 - 53
OSHA/PEL: N/E
ACGIH/TLV: N/E

SECTION 3. PHYSICAL DATA

BOILING POINT: 96 C (204 F)
VAPOR PRESSURE (MM HG): 1.3 (AT 760 MM HG) (20 C)
MELTING POINT: N/A
VAPOR DENSITY (AIR=1): 1.0
SPECIFIC GRAVITY: 1.08
EVAPORATION RATE: N/A (H₂O=1)
SOLUBILITY (H₂O): COMPLETE (100%)
% VOLATILES BY VOLUME: 100 (21 C)
PH: 2.8 (31% SOLUTION)
ODOR THRESHOLD (PPM): N/A
PHYSICAL STATE: LIQUID
COEFFICIENT WATER/OIL DISTRIBUTION: N/A
APPEARANCE AND ODOR: CLEAR, COLORLESS LIQUID. PUNGENT ODOR.

SECTION 4. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT (CLOSED CUP): 59 C (140 F)
NFPA 704M RATING: 2-2-0
AUTOIGNITION TEMPERATURE: 423 C (795 F)
FLAMMABLE LIMITS: UPPER: 73%; LOWER: 7%
FIRE EXTINGUISHER MEDIA: USE WATER SPRAY, ALCOHOL FOAM, DRY
CHEMICAL OR CARBON DIOXIDE
SPECIAL FIRE FIGHTING PROCEDURES:
FIREFIGHTERS SHOULD WEAR PROPER PROTECTIVE EQUIPMENT AND SELF-CONTAINED BREATHING APPARATUS WITH FULL FACEPIECE OPERATED IN POSITIVE PRESSURE MODE. MOVE CONTAINERS FROM FIRE AREA IF IT CAN BE DONE WITHOUT RISK. USE WATER TO KEEP FIRE-EXPOSED CONTAINERS COOL..

UNUSUAL FIRE AND EXPLOSION HAZARDS: VAPORS MAY FLOW ALONG SURFACES TO DISTANT IGNITION SOURCES AND FLASH BACK. CLOSED CONTAINERS EXPOSED TO HEAT MAY EXPLODE. CONTACT WITH STRONG OXIDIZERS MAY CAUSE FIRE.

TOXIC GASES PRODUCED: FORMALDEHYDE, CARBON MONOXIDE, CARBON DIOXIDE
EXPLOSION DATA-SENSITIVITY TO MECHANICAL IMPACT: NONE IDENTIFIED
EXPLOSION DATA-SENSITIVITY TO STATIC DISCHARGE: NONE IDENTIFIED

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SECTION 5. HEALTH HAZARD DATA

THRESHOLD LIMIT VALUE (TLV/TWA): 1.5 MG/M3 (0.75 PPM)

TLV IS FOR FORMALDEHYDE.

SHORT-TERM EXPOSURE LIMIT (STEL): 3 MG/M3 (2 PPM)

STEL IS FOR FORMALDEHYDE

PERMISSIBLE EXPOSURE LIMIT (PEL): 1.5 MG/M3 (0.75 PPM)

PEL IS FOR FORMALDEHYDE

TOXICITY OF COMPONENTS:

ORAL RAT LD50 FOR FORMALDEHYDE 800 MG/KG

SKIN RABBIT LD50 FOR FORMALDEHYDE 270 MG/KG

SUBCUTANEOUS RAT LD50 FOR FORMALDEHYDE 420 MG/KG

INHALATION RAT LC50 FOR FORMALDEHYDE 590 MG/KG

ORAL RAT LD50 FOR METHANOL 5628 MG/KG

INTRAPERITONEAL RAT LD50 FOR METHANOL 9540 MG/KG

SUBCUTANEOUS MOUSE LD50 FOR METHANOL 9800 MG/KG

SKIN RABBIT LD50 FOR METHANOL 20 G/KG

INTRAPERITONEAL MOUSE LD50 FOR WATER 190 G/KG

INTRAVENOUS MOUSE LD50 FOR WATER 25 G/KG

CARCINOGENICITY: NTP=YES; IARC=NO; Z LIST=NO; OSHA REG=NO

CARCINOGENICITY: THIS SUBSTANCE IS LISTED AS AN ACGIH

SUSPECTED HUMAN CARCINOGEN AND A NTP ANTICIPATED HUMAN CARCINOGEN.

REPRODUCTIVE EFFECTS: TESTS ON LABORATORY ANIMALS INDICATE

THAT FORMALDEHYDE MAY BE MUTAGENIC.

EFFECTS OF OVEREXPOSURE:

INHALATION: HEADACHE, NAUSEA, VOMITING, DIZZINESS,

DROWSINESS, IRRITATION OF UPPER RESPIRATORY TRACT,

UNCONSCIOUS, AND MAY BE FATAL.

SKIN CONTACT: SEVERE IRRITATION OR BURNS, PROLONGED CONTACT

MAY CAUSE SKIN SENSITIZATION

EYE CONTACT: SEVERE IRRITATION OR BURNS.

SKIN ABSORPTION: RAPID ABSORPTION

INGESTION: BLINDNESS, NAUSEA, VOMITING, GASTROINTESTINAL

IRRITATION, BURNS TO MOUTH AND THROAT, AND MAY BE FATAL.

CHRONIC EFFECTS: KIDNEY DAMAGE, LIVER DAMAGE

TARGET ORGANS: RESPIRATORY SYSTEM, EYES, SKIN, LIVER, KIDNEYS

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE

IDENTIFIED

PRIMARY ROUTES OF ENTRY: INHALATION, INGESTION, EYE CONTACT,

SKIN CONTACT, ABSORPTION

EMERGENCY AND FIRST AID PROCEDURES:

INGESTION: CALL A PHYSICIAN. IF SWALLOWED, IF CONSCIOUS,

GIVE LARGE AMOUNTS OF WATER. INDUCE VOMITING.

INHALATION: IF INHALED, REMOVE TO FRESH AIR. IF NOT

BREATHING, GIVE ARTIFICIAL RESPIRATION. IF BREATHING IS

DIFFICULT, GIVE OXYGEN.

SKIN CONTACT: IN CASE OF CONTACT IMMEDIATELY FLUSH SKIN WITH

PLENTY OF WATER FOR AT LEAST 15 MINUTES.

EYE CONTACT: IN CASE OF EYE CONTACT, IMMEDIATELY FLUSH WITH

PLENTY OF WATER FOR AT LEAST 15 MINUTES.

SARA/TITLE III HAZARD CATEGORIES AND LISTS:

ACUTE: YES; CHRONIC: YES; FLAMMABILITY: YES; PRESSURE: NO;

REACTIVITY: NO

EXTREMELY HAZARDOUS SUBSTANCE: YES -- CONTAINS FORMALDEHYDE

(RQ = 1,000 LBS, TPQ)

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CERCLA HAZARDOUS SUBSTANCE: YES -- CONTAINS FORMALDEHYDE (RQ = 1000 LBS)
SARA 313 TOXIC CHEMICALS: YES -- CONTAINS FORMALDEHYDE AND METHANOL
GENERIC CLASS: GENERIC CLASS REMOVED FROM CFR: 07/01/91
TSCA INVENTORY: YES

SECTION 6. REACTIVITY DATA

STABILITY: STABLE
HAZARDOUS POLYMERIZATION: MAY OCCUR
CONDITIONS TO AVOID: HEAT, FLAME, OTHER SOURCES OF IGNITION
INCOMPATIBLES: STRONG OXIDIZING AGENTS, STRONG ACIDS, STRONG BASES, ALKALIES, ALKALI METALS, AMINES AND AMMONIA, PHENOL, STRONG REDUCING AGENTS
DECOMPOSITION PRODUCTS: FORMALDEHYDE, CARBON MONOXIDE, CARBON DIOXIDE

SECTION 7. SPILL & DISPOSAL PROCEDURES-

STEPS TO BE TAKEN IN THE EVENT OF A SPILL OR DISCHARGE:
WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. SHUT OFF IGNITION SOURCES; NO FLARES, SMOKING OR FLAMES IN AREA. STOP LEAK IF YOU CAN DO SO WITHOUT RISK. USE WATER SPRAY TO REDUCE VAPORS. TAKE UP WITH SAND OR OTHER NON-COMBUSTIBLE ABSORBENT MATERIAL AND PLACE INTO CONTAINER FOR LATER DISPOSAL. FLUSH AREA WITH WATER.
DISPOSAL PROCEDURE: DISPOSE IN ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.
EPA HAZARDOUS WASTE NUMBER: U122 (TOXIC WASTE)

SECTION 8. INDUSTRIAL PROTECTIVE EQUIPMENT

VENTILATION: USE GENERAL OR LOCAL EXHAUST VENTILATION TO MEET TLV REQUIREMENTS.
RESPIRATORY PROTECTION: RESPIRATORY PROTECTION REQUIRED IF AIRBORNE CONCENTRATION EXCEEDS TLV. AT CONCENTRATIONS UP TO 50 PPM, A CHEMICAL CARTRIDGE RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE IS RECOMMENDED. ABOVE THIS LEVEL, A SELF-CONTAINED BREATHING APPARATUS IS RECOMMENDED.
EYE/SKIN PROTECTION: SAFETY GOGGLES AND FACE SHIELD, UNIFORM, PROTECTIVE SUIT, PROPER GLOVES ARE RECOMMENDED.

SECTION 9. STORAGE AND HANDLING PRECAUTIONS

SAF-T-DATA* STORAGE COLOR CODE: RED (FLAMMABLE)
STORAGE REQUIREMENTS:
KEEP CONTAINER TIGHTLY CLOSED. STORE IN A COOL, DRY, WELL-VENTILATED, FLAMMABLE LIQUID STORAGE AREA OR CABINET.
ISOLATE FROM INCOMPATIBLE MATERIALS. STORE ABOVE 15 C.
SPECIAL PRECAUTIONS:
FORMALDEHYDE SOLUTIONS WITH A FLASH POINT BELOW 141 F IN CONTAINERS EXCEEDING 110 GALLONS ARE CLASSIFIED AS A COMBUSTIBLE WITH UN1198. SEE 49 CFR 172.101.

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SECTION 10. TRANSPORTATION DATA AND ADDITIONAL INFORMATION-

DOMESTIC (DOT):

PROPER SHIPPING NAME: FORMALDEHYDE SOLUTION (FLASH PT. BELOW 141 F)

HAZARD CLASS: ORM-A

UN/NA: UN1198

REPORTABLE QUANTITY: 1000 LBS.

LABELS: NO LABEL REQUIRED UNDER 110 GALLONS

REGULATORY REFERENCES: 49 CFR 172.101; 173.500; 173.510

INTERNATIONAL (IMO):

PROPER SHIPPING NAME: FORMALDEHYDE, SOLUTIONS

HAZARD CLASS: 3.3

IMO PAGE: 3347

UN: UN1198

MARINE POLLUTANTS: NO

PACKAGING GROUP: III

LABELS: FLAMMABLE LIQUID

REGULATORY REFERENCES: 49 CFR 172.102; PART 176; IMO

AIR (ICAO):

PROPER SHIPPING NAME: FORMALDEHYDE, SOLUTIONS

HAZARD CLASS: 3.3 UN: UN1198 PACKAGING GROUP: III LABELS: FLAMMABLE LIQUID

REGULATORY REFERENCES: 40 CFR 172.101; 173.6; PART 175

ICAO/IATA: WE BELIEVE THE TRANSPORTATION DATA AND REFERENCES

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US CUSTOMS HARMONIZATION NUMBER: 29121100000

THE INFORMATION IN THIS MATERIAL SAFETY DATA SHEET MEETS THE REQUIREMENTS OF THE UNITED STATES OCCUPATIONAL SAFETY AND HEALTH ACT AND REGULATIONS PROMULGATED THEREUNDER (29 CFR 1910.1200 ET. SEQ.) AND THE CANADIAN WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM. THIS DOCUMENT IS INTENDED ONLY AS A GUIDE TO THE APPROPRIATE PRECAUTIONARY HANDLING OF THE MATERIAL BY A PERSON TRAINED IN, OR SUPERVISED BY A PERSON TRAINED IN, CHEMICAL HANDLING. THE USER IS RESPONSIBLE FOR HIS OR HER PARTICULAR APPLICATION. DEPENDING ON USAGE, PROTECTIVE CLOTHING INCLUDING EYE AND FACE GUARDS AND RESPIRATORS MUST BE USED TO AVOID CONTACT WITH MATERIAL OR BREATHING CHEMICAL VAPORS/FUMES. EXPOSURE TO THIS PRODUCT MAY HAVE SERIOUS ADVERSE HEALTH EFFECTS. THIS CHEMICAL MAY INTERACT WITH OTHER SUBSTANCES. SINCE THE POTENTIAL USES ARE SO VARIED, BAKER CANNOT WARN OF ALL OF THE POTENTIAL DANGERS OF USE OR INTERACTION WITH OTHER CHEMICALS OR MATERIALS. BAKER WARRANTS THAT THE CHEMICAL MEETS THE SPECIFICATIONS SET FORTH ON THE LABEL. BAKER DISCLAIMS ANY OTHER WARRANTIES, EXPRESSED OR IMPLIED WITH REGARD TO THE PRODUCT SUPPLIED HEREUNDER, ITS MERCHANTABILITY OR ITS FITNESS FOR A PARTICULAR PURPOSE. THE USER SHOULD RECOGNIZE THAT THIS PRODUCT CAN CAUSE SEVERE INJURY AND EVEN DEATH, ESPECIALLY IF IMPROPERLY HANDLED OR THE KNOWN DANGERS OF USE ARE NOT HEEDDED. READ ALL PRECAUTIONARY INFORMATION. AS NEW DOCUMENTED GENERAL SAFETY INFORMATION BECOMES AVAILABLE, BAKER WILL PERIODICALLY REVISE THIS MATERIAL SAFETY DATA SHEET. NOTE: CHEMTREC, CANUTEC, AND NATIONAL RESPONSE CENTER EMERGENCY TELEPHONE NUMBERS ARE TO BE USED ONLY IN THE EVENT OF CHEMICAL EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT INVOLVING CHEMICALS.

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