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Material Safety Data Sheet

Transportation Emergency: 1-800-451-8346

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SECTION 1. ----- CHEMICAL IDENTIFICATION-----

CATALOG #: 4655-1-W1
NAME: 4-NITROANILINE
SYNONYM: 4-AMINONITROBENZENE

SECTION 2. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

CAS NUMBER: 100-01-6
MOLECULAR FORMULA: $C_6H_6N_2O_2$
MOLECULAR WEIGHT: 138.12

SECTION 3. ----- HAZARDS IDENTIFICATION -----

LABEL PRECAUTIONARY STATEMENTS

TOXIC.

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

TOXIC TO AQUATIC LIFE.

TARGET ORGAN

BLOOD, HEART, LUNGS, LIVER.

SECTION 4. ----- FIRST-AID MEASURES-----

ORAL EXPOSURE

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS. CONSULT A PHYSICIAN.

INHALATION EXPOSURE

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL RESPIRATION.

IF BREATHING IS DIFFICULT, GIVE OXYGEN. CONSULT A PHYSICIAN.

EYE EXPOSURE

ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS WITH FINGERS. CONSULT A PHYSICIAN.

DERMAL EXPOSURE

IN CASE OF CONTACT, WASH SKIN IMMEDIATELY WITH SOAP AND COPIOUS AMOUNTS OF WATER. CONSULT A PHYSICIAN.

SECTION 5. ----- FIRE FIGHTING MEASURES -----

EXTINGUISHING MEDIA

SUITABLE: WATER SPRAY, FOAM, DRY CHEMICAL OR CARBON DIOXIDE.
COOL ALL AFFECTED CONTAINERS WITH FLOODING QUANTITIES OF WATER.

FIREFIGHTING

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
SPECIFIC METHOD(S) OF FIRE FIGHTING: USE WATER SPRAY TO COOL FIRE-EXPOSED CONTAINERS.
SPECIFIC HAZARD(S): EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

PROCEDURE TO BE FOLLOWED IN CASE OF LEAK OR SPILL

EVACUATE PERSONNEL TO A SAFE PLACE.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS, AND HEAVY RUBBER GLOVES. AVOID DUST FORMATION. AVOID BREATHING DUST, VAPORS, MIST OR GAS. ENSURE ADEQUATE VENTILATION.

ENVIRONMENTAL PRECAUTIONS

DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

METHODS FOR CLEANING UP

SWEEP UP MATERIAL WITHOUT CREATING DUST AND DISPOSE OF AS HAZARDOUS WASTE. PLACE IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL REGULATIONS.

SECTION 7. ----- HANDLING AND STORAGE-----

HANDLING

USER EXPOSURE: AVOID CONTACT WITH SKIN AND EYES. AVOID FORMATION OF DUST AND AEROSOLS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED. NORMAL MEASURES FOR PREVENTIVE FIRE PROTECTION. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING.

STORAGE

SUITABLE: KEEP TIGHTLY CLOSED. KEEP AWAY FROM HEAT, SPARKS, AND OPEN FLAME. STORE IN A COOL DRY PLACE. LIGHT SENSITIVE. MOISTURE SENSITIVE.

SECTION 8. ----- EXPOSURE CONTROLS/PERSONAL PROTECTION-----

ENGINEERING CONTROLS

SAFETY SHOWER AND EYE BATH. MECHANICAL EXHAUST REQUIRED.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A DUST MASK TYPE N95 (US) OR TYPE P1 (EN 143) RESPIRATOR.

USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

HAND: HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. WASH AND DRY HANDS.

EYE: TIGHTLY FITTING CHEMICAL SAFETY GOGGLES.

GENERAL HYGIENE MEASURES

WASH HANDS THOROUGHLY AFTER HANDLING. AVOID CONTACT WITH SKIN, EYES AND CLOTHING.

SECTION 9. ----- PHYSICAL AND CHEMICAL PROPERTIES -----

APPEARANCE AND ODOR

SOLID

PHYSICAL PROPERTIES

MELTING POINT: 146 - 149 °C
BOILING POINT: 260 °C @ 100 mmHg
FLASH POINT: 213 °C
DENSITY: 1.44 g/ml @ 20 °C

SECTION 10. -----STABILITY AND REACTIVITY -----

STABILITY

STABLE: STABLE UNDER RECOMMENDED CONDITIONS.

CONDITIONS TO AVOID: OPEN FIRE AND FLAMES, EXTREMES OF TEMPERATURE.

MATERIALS TO AVOID: STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS, STRONG ACIDS, PLASTICS, RUBBER.

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS: CARBON OXIDES, NITROGEN OXIDES.

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

ROUTE OF EXPOSURE

INHALATION: TOXIC IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION.

INGESTION: TOXIC IF SWALLOWED.

SKIN: HTOXIC IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION.

EYES: MAY CAUSE EYE IRRITATION.

TARGET ORGAN EFFECT: MAY CAUSE DAMAGE TO ORGANS THROUGH PROLONGED OR REPEATED EXPOSURE. OVEREXPOSURE MAY CAUSE REPRODUCTIVE DISORDER(S) BASED ON TESTS WITH LABORATORY ANIMALS.

SIGNS AND SYMPTOMS OF EXPOSURE

ABSORPTION INTO THE BODY LEADS TO THE FORMATION OF METHEMOGLOBIN WHICH IN SUFFICIENT CONCENTRATION CAUSES CYANOSIS. ONSET MAY BE DELAYED 2 TO 4 HOURS OR LONGER. EXPOSURE TO AND/OR CONSUMPTION OF ALCOHOL MAY INCREASE TOXIC EFFECTS. HEADACHE, UNCONSCIOUSNESS, COUGH, CHEST PAIN, DIFFICULTY IN BREATHING, DROWSINESS, NAUSEA, CYANOSIS, ATAXIA, DIARRHOEA, VOMITING.

P-NITROANILINE IS READILY ABSORBED BY INHALATION, INGESTION, OR SKIN ABSORPTION. IT IS A STRONG METHEMOGLOBIN FORMER. CYANOSIS IS THE FIRST MANIFESTATION OF TOXICITY.

TO THE BEST OF OUR KNOWLEDGE, THE TOXICOLOGICAL PROPERTIES OF THIS PRODUCT HAVE NOT BEEN FULLY DETERMINED.

SECTION 12. ----- ECOLOGICAL INFORMATION -----

TOXIC TO AQUATIC LIFE. MAY CAUSE LONG LASTING HARMFUL EFFECTS TO AQUATIC LIFE.

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. OBSERVE ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

SECTION 14. ----- TRANSPORT INFORMATION -----

DOT

UN1661 - HC: 6.1 - PG: II

SECTION 15. ----- REGULATORY INFORMATION -----

EU ADDITIONAL CLASSIFICATION

SYMBOL OF DANGER: N, T

INDICATION OF DANGER: HARMFUL. TOXIC. DANGEROUS FOR THE ENVIRONMENT.

RISK STATEMENTS: 20/21/22-52/53

SAFETY STATEMENTS: 13-22-24/25-26-36/37/39-45-61

UNITED STATES REGULATORY INFORMATION

TSCA: LISTED ON TSCA INVENTORY; FOR R&D USE ONLY

SECTION 16. ----- OTHER INFORMATION-----

THE ABOVE INFORMATION IS BELIEVED TO BE CORRECT BUT DOES NOT PURPORT TO BE ALL INCLUSIVE AND SHALL BE USED ONLY AS A GUIDE. SYNQUEST LABS, INC. SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT.