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Material Safety Data Sheet

Transportation Emergency: 1-800-451-8346

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

CATALOG #: 2618-5-01
NAME: 4,5-DICHLORO-3,6-DIOXOCYCLOHEXA-1,4-DIENE-1,2-DICARBONITRILE
SYNONYM: 2,3-DICHLORO-5,6-DICYANO-*p*-BENZOQUINONE * DDQ

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

CAS #: 84-58-2
MF: C₈Cl₂N₂O₂ = 227.01

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

LABEL PRECAUTIONARY STATEMENTS

TOXIC.
TOXIC IF SWALLOWED.
AVOID MOISTURE.
CONTACT WITH WATER LIBERATES TOXIC GAS.
TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND
TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

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

ORAL EXPOSURE

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

INHALATION EXPOSURE

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

DERMAL EXPOSURE

IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR
AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND SHOES.
CALL A PHYSICIAN.

EYE EXPOSURE

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF
WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY
SEPARATING THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

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

EXTINGUISHING MEDIA

SUITABLE: CARBON DIOXIDE, DRY CHEMICAL POWDER, OR APPROPRIATE FOAM.
EXTINGUISHING MEDIA WHICH SHALL NOT BE USED FOR SAFETY REASONS
WATER

FIREFIGHTING

PROTECTIVE EQUIPMENT: WEAR SELF-CONTAINED BREATHING APPARATUS
AND PROTECTIVE CLOTHING TO PREVENT CONTACT WITH SKIN AND EYES.
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 AREA.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS, AND HEAVY
RUBBER GLOVES.

METHODS FOR CLEANING UP

SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL. AVOID
RAISING DUST. VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL
PICKUP IS COMPLETE.

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

HANDLING

USER EXPOSURE: DO NOT BREATHE DUST. AVOID CONTACT WITH EYES,
SKIN, AND CLOTHING. AVOID PROLONGED OR REPEATED EXPOSURE.

STORAGE

SUITABLE: KEEP TIGHTLY CLOSED. MOISTURE SENSITIVE.

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

ENGINEERING CONTROLS

SAFETY SHOWER AND EYE BATH. USE ONLY IN A CHEMICAL FUME HOOD.

PERSONAL PROTECTIVE EQUIPMENT

RESPIRATORY: USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED
UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN
(EU). WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE
APPROPRIATE USE A FULL-FACE PARTICLE RESPIRATOR TYPE N99 (US) OR
TYPE P2 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING
CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A
FULL-FACE SUPPLIED AIR RESPIRATOR.

HAND: COMPATIBLE CHEMICAL-RESISTANT GLOVES.

EYE: CHEMICAL SAFETY GOGGLES.

GENERAL HYGIENE MEASURES

WASH THOROUGHLY AFTER HANDLING.

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

APPEARANCE AND ODOR

SOLID

PHYSICAL PROPERTIES

MELTING POINT: 210 °C (DECOMPOSES)

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

STORAGE STABILITY

STABLE UNDER RECOMMENDED STORAGE CONDITIONS.

CONDITIONS TO AVOID

IN THE PRESENCE OF WATER THIS MATERIAL DECOMPOSES TO HYDROGEN CYANIDE, THEREFORE, MOST REACTIONS WITH THIS REAGENT SHOULD BE CARRIED OUT UNDER ANHYDROUS CONDITIONS.

MATERIALS TO AVOID

STRONG ACIDS, STRONG BASES, STRONG OXIDIZING AGENTS, STRONG REDUCING AGENTS

HAZARDOUS DECOMPOSITION PRODUCTS

HAZARDOUS DECOMPOSITION PRODUCTS FORMED UNDER FIRE CONDITIONS.

CARBON OXIDES, NITROGEN OXIDES, HYDROGEN CHLORIDE GAS,
HYDROGEN CYANIDE (HYDROCYANIC ACID)

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

ROUTE OF EXPOSURE

SKIN CONTACT: CAUSES SKIN IRRITATION.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.

EYE CONTACT: CAUSES EYE IRRITATION.

INHALATION: MAY BE HARMFUL IF INHALED. MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER RESPIRATORY TRACT.

INGESTION: TOXIC IF SWALLOWED.

SIGNS AND SYMPTOMS OF EXPOSURE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

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

DATA NOT YET AVAILABLE.

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

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION

CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL. DISSOLVE OR MIX THE MATERIAL WITH A COMBUSTIBLE SOLVENT AND BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER. OBSERVE ALL FEDERAL, STATE, AND LOCAL ENVIRONMENTAL REGULATIONS.

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

DOT

PROPER SHIPPING NAME: TOXIC SOLID, ORGANIC, N.O.S.

UN#: 2811

CLASS: 6.1

PACKING GROUP: PACKING GROUP III

HAZARD LABEL: TOXIC SOLID

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

EUROPEAN INFORMATION

SYMBOL OF DANGER: T

INDICATION OF DANGER: TOXIC.

R: 25-29

RISK STATEMENTS: TOXIC IF SWALLOWED. CONTACT WITH WATER LIBERATES TOXIC GAS.

S: 22-24/25-37-45

SAFETY STATEMENTS: DO NOT BREATHE DUST. AVOID CONTACT WITH SKIN AND EYES.

WEAR SUITABLE GLOVES. IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY.

US CLASSIFICATION AND LABEL TEXT

INDICATION OF DANGER: TOXIC (USA) HARMFUL (EU).

RISK STATEMENTS: TOXIC IF SWALLOWED. IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.

SAFETY STATEMENTS: DO NOT BREATHE DUST. IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE. WEAR SUITABLE PROTECTIVE CLOTHING.

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.