



SAFETY DATA SHEET

P.O. Box 1603
EUNICE, LA 70535
866-457-0064 or 337-457-0064

CITRIC ACID

1. - PRODUCT & COMPANY IDENTIFICATION

PRODUCT CODE G136002
PRODUCT IDENTIFIER CITRIC ACID ANHYDROUS
OTHER MEANS OF IDENTIFICATION N.A.V.
RECOMMENDED USE AND RESTRICTIONS ON USE N.A.V.
SUPPLIER IDENTIFIER DELTA DRILLING PRODUCTS & SERVICES, LLC
154 EASTPARK DRIVE
P. O. BOX 1603
EUNICE, LA 70535
PHONE: (866) 457-0064
EMERGENCY PHONE NO. **CHEMTRAC: Phone: (800) 424-9300**

2. HAZARD(S) IDENTIFICATION



HAZARD CLASSIFICATION EYE IRRITATION – CATEGORY 2A.
SIGNAL WORD WARNING.
HAZARD STATEMENT H319 CAUSES SERIOUS EYE IRRITATION.
PRECAUTIONARY STATEMENT P264 WASH SKIN THOROUGHLY AFTER HANDLING. P280 WEAR PROTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION. P305+P351+P338 IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. P337+P313 IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION.
OTHER HAZARDS NONE

3. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS INGREDIENTS	CAS #	WT. %
CITRIC ACID ANHYDROUS	77-92-9	100

4. FIRST-AID MEASURES

INHALATION IF DUST FROM THE MATERIAL IS INHALED, REMOVE THE AFFECTED PERSON IMMEDIATELY TO FRESH AIR. CALL A PHYSICIAN IF SYMPTOMS DEVELOP OR PERSIST.
EYE CONTACT DO NOT RUB EYES. IMMEDIATELY FLUSH EYES WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS.
SKIN CONTACT WASH OFF WITH SOAP AND WATER. GET MEDICAL ATTENTION IF IRRITATION DEVELOPS AND PERSISTS.
INGESTION RINSE MOUTH. GET MEDICAL ATTENTION IF SYMPTOMS OCCUR.
MOST IMPORTANT SYMPTOMS SEVERE EYE IRRITATION. SYMPTOMS MAY INCLUDE STINGING, TEARING, REDNESS, SWELLING, AND EFFECTS, ACUTE OR DELAYED BLURRED VISION. UPPER RESPIRATORY TRACT IRRITATION.
INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED PROVIDE GENERAL SUPPORTIVE MEASURES AND TREAT SYMPTOMATICALLY. KEEP VICTIM UNDER OBSERVATION. SYMPTOMS MAY BE DELAYED. ENSURE THAT MEDICAL PERSONNEL ARE AWARE OF THE MATERIAL(S) INVOLVED AND TAKE PRECAUTIONS TO PROTECT THEMSELVES.

5. FIRE-FIGHTING MEASURES

FLAMMABILITY NOT COMBUSTIBLE/NOT FLAMMABLE.
EXTINGUISHING MEDIA WATER FOG. FOAM. DRY CHEMICAL POWDER. CARBON DIOXIDE (CO2). DO NOT USE WATER JET AS AN EXTINGUISHER, AS THIS WILL SPREAD THE FIRE.

5. FIRE-FIGHTING MEASURES (CONTINUED)

HAZARDOUS COMBUSTION PRODUCTS	SEE HAZARDOUS DECOMPOSITION PRODUCTS.
SPECIAL HAZARDS ARISING FROM THE PRODUCT	DURING FIRE, GASES HAZARDOUS TO HEALTH MAY BE FORMED.
SPECIAL PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIRE-FIGHTERS	AS IN ANY FIRE, WEAR A SELF-CONTAINED BRATHING APPARATUS IN PRESSURE-DEMAND, MSHA/NIOSH (APPROVED OR EQUIVALENT), AND FULL PROTECTIVE GEAR. COMBUSTIBLE LIQUID. USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS	KEEP UNNECESSARY PERSONNEL AWAY. KEEP PEOPLE AWAY FROM AND UPWIND OF SPILL/LEAK. KEEP OUT OF LOW AREAS WEAR APPROPRIATE PROTECTIVE EQUIPMENT AND CLOTHING DURING CLEAN-UP. AVOID INHALATION OF DUST FROM THE SPILLED MATERIAL. USE A NIOSH/MSHA APPROVED RESPIRATOR IF THERE IS A RISK OF EXPOSURE TO DUST/FUME AT LEVELS EXCEEDING THE EXPOSURE LIMITS. DO NOT TOUCH DAMAGED CONTAINERS OR SPILLED MATERIAL UNLESS WEARING APPROPRIATE PROTECTIVE CLOTHING ENSURE ADEQUATE VENTILATION. LOCAL AUTHORITIES SHOULD BE ADVISED IF SIGNIFICANT SPILLAGES CANNOT BE CONTAINED. FOR PERSONAL PROTECTION, SEE SECTION 8 OF THE SDS.
ENVIRONMENTAL PRECAUTIONS	AVOID DISCHARGE INTO DRAINS, WATER COURSES OR ONTO THE GROUND.
METHODS FOR CONTAINMENT	STOP THE FLOW OF MATERIAL, IF THIS IS WITHOUT RISK.
METHODS FOR CLEANING UP	IF SWEEPING OF A CONTAMINATED AREA IS NECESSARY USE A DUST SUPPRESSANT AGENT WHICH DOES NOT REACT WITH THE PRODUCT. COLLECT DUST USING A VACUUM CLEANER EQUIPPED WITH HEPA FILTER. MINIMIZE DUST GENERATION AND ACCUMULATION. PREVENT ENTRY INTO WATERWAYS, SEWER, BASEMENTS OR CONFINED AREAS. FOLLOWING PRODUCT RECOVERY, FLUSH AREA WITH WATER.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING	PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED, MINIMIZE DUST GENERATION AND ACCUMULATION. AVOID BREATHING DUST, AVOID CONTACT WITH EYES. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT. OBSERVE GOOD INDUSTRIAL HYGIENE PRACTICES.
CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITIES:	STORE IN ORIGINAL TIGHTLY CLOSED CONTAINER. STORE IN A WELL-VENTILATED PLACE. STORE AWAY FROM INCOMPATIBLE MATERIALS.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

INGREDIENTS	ACGIH TLV		OSHA PEL		NIOSH
	TWA	STEL	PEL	STEL	REL
CITRIC ACID, ANHYDROUS	N.A.V.	N.A.V.	N.A.V.	N.A.V.	N.A.V.
APPROPRIATE ENGINEERING CONTROLS	GOOD GENERAL VENTILATION (TYPICALLY 10 AIR CHANGES PER HOUR) SHOULD BE USED. VENTILATION RATES SHOULD BE MATCHED TO CONDITIONS. IF APPLICABLE, USE PROCESS ENCLOSURES, LOCAL EXHAUST VENTILATION, OR OTHER ENGINEERING CONTROLS TO MAINTAIN AIRBORNE LEVELS BELOW RECOMMENDED EXPOSURE LIMITS. IF EXPOSURE LIMITS HAVE NOT BEEN ESTABLISHED, MAINTAIN AIRBORNE LEVELS TO AN ACCEPTABLE LEVEL. VENTILATION SHOULD BE SUFFICIENT TO EFFECTIVELY REMOVE AND PREVENT BUILD-UP OF ANY DUSTS OR FUMES THAT MAY BE GENERATED DURING HANDLING OR THERMAL PROCESSING.				
INDIVIDUAL PROTECTION MEASURE SUCH AS PERSONAL PROTECTIVE EQUIPMENTS:					
EYE PROTECTION	USE TIGHT FITTING GOGGLES IF DUST IS GENERATED.				
HAND PROTECTION	WEAR APPROPRIATE CHEMICAL RESISTANT GLOVES.				
RESPIRATORY PROTECTION	USE A NIOSH/MSHA APPROVED RESPIRATOR IF THERE IS A RISK OF EXPOSURE TO DUST/FUME AT LEVELS EXCEEDING THE EXPOSURE LIMITS.				
PROTECTIVE CLOTHING	WEAR SUITABLE PROTECTIVE CLOTHING.				
PROTECTIVE FOOTWEAR	WEAR SUITABLE PROTECTIVE FOOTWEAR.				
OTHER	EYEWASH STATION AND SAFETY SHOWER SHOULD BE MADE AVAILABLE IN THE IMMEDIATE WORKING AREA. USE GOOD INDUSTRIAL HYGIENE PRACTICES IN HANDLING THIS MATERIAL.				

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	SOLID.
ODOUR	ODOURLESS. N.A.V. CHARACTERISTIC.

9. PHYSICAL AND CHEMICAL PROPERTIES (CONTINUED)

COLOR	WHITE. WHITE TO OFF-WHITE.
PH	N.AP.
BOILING POINT	N.AP.
MELTING/FREEZING POINT	307.4 °F (153 °C).
FLASH POINT @,METHOD	N.AP.
EVAPORATION RATE	N.AP.
FLAMMABILITY (SOLIDS AND GASES)	N.AV.
UPPER FLAMMABLE LIMIT (% BY VOL.)	N.AP.
LOWER FLAMMABLE LIMIT (% BY VOL.)	N.AP.
VAPOUR PRESSURE (MMHG)	N.AP.
VAPOUR DENSITY (AIR=1)	N.AP.
BY VOLUME	
BY WEIGHT	
SPECIFIC GRAVITY (WATER=1)	~1.66.
SOLUBILITY IN WATER (% W/W)	N.AV.
COEFFICIENT OF WATER/OIL DIST	N.AV.
AUTO IGNIATION TEMPERATURE	1850 °f (1010 °c).
DECOMPOSITION TEMPERATURE	N.AV.
VISCOSITY	DYNAMIC VISCOSITY: 6.5 MPA.S @ 77 °F (25 °C). KINEMATIC VISCOSITY: 3.904 MM ² /S ESTIMATED.

10. STABILITY AND REACTIVITY

REACTIVITY	HAZARDOUS POLYMERISATION WILL NOT OCCUR.
CHEMICAL STABILITY	STABLE UNDER NORMAL CONDITIONS.
POSSIBILITY OF HAZARDOUS REACTIONS	NO DANGEROUS REACTION KNOWN UNDER CONDITIONS OF NORMAL USE.
CONDITIONS TO AVOID	CONTACT WITH INCOMPATIBLE MATERIALS. AVOID DISPERSAL OF DUST IN THE AIR (I.E., CLEARING DUST SURFACES WITH COMPRESSED AIR).
INCOMPATIBLE MATERIALS	STRONG OXIDIZING AGENTS.
HAZARDOUS PRODUCTS OF DECOMPOSITION	NO HAZARDOUS DECOMPOSITION PRODUCTS ARE KNOWN.

11. TOXICOLOGICAL INFORMATION

INGREDIENTS	LC50	LD50
CITRIC ACID, ANHYDROUS	N.AV.	>2000 mg/kg, 24 Hours (DERMAL, RAT); 5400 mg/kg (ORAL, MOUSE); 2700 mg/kg (ORAL, RAT)

INFORMATION ON LIKELY ROUTES OF ENTRY:

SKIN CONTACT	NO ADVERSE EFFECTS DUE TO SKIN CONTACT ARE EXPECTED.
EYE CONTACT	CAUSES SERIOUS EYE IRRITATION. DUST IN THE EYES WILL CAUSE IRRITATION.
INHALATION	INHALATION OF DUSTS MAY CAUSE RESPIRATORY IRRITATION.
INGESTION	EXPECTED TO BE A LOW INGESTION HAZARD.

INFORMATION ON TOXICOLOGICAL EFFECTS:

EFFECTS OF ACUTE EXPOSURE	SEVERE EYE IRRITATION. SYMPTOMS MAY INCLUDE STINGING, TEARING, REDNESS, SWELLING, AND BLURRED VISION. UPPER RESPIRATORY TRACT IRRITATION.
EFFECTS OF CHRONIC EXPOSURE	PROLONGED SKIN CONTACT MAY CAUSE TEMPORARY IRRITATION.
INHALATION, CHRONIC	N.AV.
CARCINOGENICITY OF MATERIAL	THIS PRODUCT IS NOT CONSIDERED TO BE A CARCINOGEN BY IARC, ACGIH, NTP, OR OSHA.
REPRODUCTIVE EFFECTS	THIS PRODUCT IS NOT EXPECTED TO CAUSE REPRODUCTIVE OR DEVELOPMENTAL EFFECTS.
SENSITIZING CAPABILITY OF MATERIAL	THIS PRODUCT IS NOT EXPECTED TO CAUSE SKIN SENSITIZATION.
SYNERGISTIC MATERIALS	N.AV.

12. ECOLOGICAL INFORMATION

EXOTOXICITY	NO DATA AVAILABLE.
PERSISTENCE AND DEGRADATION	NO DATA AVAILABLE
BIOACCUMULATIVE POTENTIAL	NO DATA AVAILABLE.
MOBILITY	NO DATA AVAILABLE.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

14. TRANSPORT INFORMATION

CANADA:

TDG CLASSIFICATION: NOT REGULATED.

USA:

D.O.T. CLASSIFICATION: NOT REGULATED.

PROPER SHIPPING NAME N.AP.

UN NUMBER N.AP.

PACKING GROUP N. AP.

ENVIRONMENTAL HAZARDS ACCORDING N.AV.

TO THE INTERNATIONAL MARITIM
DANGEROUS GOODS CODE AND THE
UNITED NATIONS MODEL

REGULATIONS:

SPECIAL INSTRUCTIONS: N.AV.

15. REGULATORY INFORMATION

SAFETY, HEALTH AND ENVIRONMENTAL N.AV.

REGULATIONS SPECIFIC TO THE
PRODUCT:

16. OTHER INFORMATION

N.AP. = NOT APPLICABLE

N.AV. =NOT AVAILABLE

PREPARED BY: REGULATORY AFFAIRS.

PREPARATION DATE: MAY 12/15

Further information:

The information provided in this safety Data Sheet is correct to the best of our knowledge, information and belief at the date of publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.