



**SIGMA-ALDRICH**

ALDRICH CHEMICAL COMPANY, INC.  
P.O. BOX 355  
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DATE 07/30/96  
CUST#: 938609  
PO#: 82809

M A T E R I A L   S A F E T Y   D A T A   S H E E T

PAGE 1

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

CATALOG #: 25811-3  
NAME: NITRIC ACID, 70%, A.C.S. REAGENT

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

CAS #: 7697-37-2  
MF: HNO<sub>3</sub>  
EC NO: 231-714-2

SYNONYMS

NITRIC ACID, RED FUMING (DOT) \* NITROUS FUMES \* RED FUMING NITRIC  
ACID \* RFNA \* UN2032 (DOT) \*

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

● BEL PRECAUTIONARY STATEMENTS

OXIDIZING  
HIGHLY TOXIC (USA)  
TOXIC (EU)  
CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.  
TOXIC BY INHALATION, IN CONTACT WITH SKIN AND IF SWALLOWED.  
CAUSES BURNS.  
REACTS VIOLENTLY WITH WATER.  
KEEP AWAY FROM COMBUSTIBLE MATERIAL.  
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF  
WATER AND SEEK MEDICAL ADVICE.  
TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING.  
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE  
PROTECTION.  
PROTECT FROM LIGHT.

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

IN CASE OF CONTACT, IMMEDIATELY FLUSH EYES OR SKIN WITH COPIOUS  
AMOUNTS OF WATER FOR AT LEAST 15 MINUTES WHILE REMOVING CONTAMINATED  
CLOTHING AND SHOES.  
ASSURE ADEQUATE FLUSHING OF THE EYES BY SEPARATING THE EYELIDS  
WITH FINGERS.  
IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL  
RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.  
IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.  
CALL A PHYSICIAN IMMEDIATELY.  
DISCARD CONTAMINATED CLOTHING AND SHOES.

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

EXTINGUISHING MEDIA

CONTINUED ON NEXT PAGE

6075

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PAGE 2

CATALOG #: 25811-3  
NAME: NITRIC ACID, 70%, A.C.S. REAGENT

NONCOMBUSTIBLE.  
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.  
DO NOT USE WATER.

SPECIAL FIREFIGHTING PROCEDURES  
WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO  
PREVENT CONTACT WITH SKIN AND EYES.  
REACTS VIOLENTLY WITH WATER.

UNUSUAL FIRE AND EXPLOSIONS HAZARDS  
STRONG OXIDIZER.  
CONTACT WITH OTHER MATERIAL MAY CAUSE FIRE.  
VIGOROUSLY SUPPORTS COMBUSTION.  
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY  
RUBBER GLOVES.  
ABSORB ON SAND OR VERMICULITE AND PLACE IN CLOSED CONTAINERS FOR  
DISPOSAL.  
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

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

REFER TO SECTION 8.

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

CHEMICAL SAFETY GOGGLES.  
SAFETY SHOWER AND EYE BATH.  
RUBBER APRON.  
NIOSH/MSHA-APPROVED RESPIRATOR.  
WEAR HEAVY RUBBER GLOVES.  
MECHANICAL EXHAUST REQUIRED.  
FACESHIELD (8-INCH MINIMUM).  
AVOID CONTACT AND INHALATION.  
AVOID PROLONGED OR REPEATED EXPOSURE.  
WASH THOROUGHLY AFTER HANDLING.  
POISON  
CORROSIVE.  
KEEP TIGHTLY CLOSED.  
DO NOT STORE NEAR, NOR ALLOW CONTACT WITH, CLOTHING AND OTHER  
COMBUSTIBLE MATERIAL.  
PROTECT FROM LIGHT.  
DO NOT ALLOW CONTACT WITH WATER.  
STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR

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PAGE 3

CATALOG #: 25811-3  
NAME: NITRIC ACID, 70%, A.C.S. REAGENT

CLEAR COLORLESS LIQUID

PHYSICAL PROPERTIES

FLASHPOINT: NONE  
VAPOR PRESSURE: 8MM 20 C  
SPECIFIC GRAVITY: 1.400  
VAPOR DENSITY: 1

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

INCOMPATIBILITIES

BASES  
REDUCING AGENTS  
ALCOHOLS  
ALKALI METALS  
BRASS  
FINELY POWDERED METALS  
COPPER, COPPER ALLOYS  
GALVANIZED IRON  
ALUMINUM  
CORRODES STEEL  
ORGANIC MATERIALS  
AMINES  
MAY DISCOLOR ON EXPOSURE TO LIGHT.  
REACTS VIOLENTLY WITH:  
WATER

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:  
NITROGEN OXIDES

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

ACUTE EFFECTS

MAY BE FATAL IF INHALED, SWALLOWED, OR ABSORBED THROUGH SKIN.  
CAUSES BURNS.  
MATERIAL IS EXTREMELY DESTRUCTIVE TO TISSUE OF THE MUCOUS MEMBRANES  
AND UPPER RESPIRATORY TRACT, EYES AND SKIN.  
INHALATION MAY BE FATAL AS A RESULT OF SPASM, INFLAMMATION AND EDEMA  
OF THE LARYNX AND BRONCHI, CHEMICAL PNEUMONITIS AND PULMONARY EDEMA.  
SYMPTOMS OF EXPOSURE MAY INCLUDE BURNING SENSATION, COUGHING,  
WHEEZING, LARYNGITIS, SHORTNESS OF BREATH, HEADACHE, NAUSEA AND  
VOMITING.

RTECS #: QU5900000  
NITRIC ACID (RED FUMING)

TOXICITY DATA

IHL-RAT LC50: 67 PPM(NO2)/4H AMIHBC 10,418.54  
ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES

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6077

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PAGE 4

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(RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR COMPLETE INFORMATION.

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

DATA NOT YET AVAILABLE.

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

FOR SMALL QUANTITIES: CAUTIOUSLY ADD TO A LARGE STIRRED EXCESS OF WATER. ADJUST THE PH TO NEUTRAL, SEPARATE ANY INSOLUBLE SOLIDS OR LIQUIDS AND PACKAGE THEM FOR HAZARDOUS-WASTE DISPOSAL. FLUSH THE AQUEOUS SOLUTION DOWN THE DRAIN WITH PLENTY OF WATER. THE HYDROLYSIS AND NEUTRALIZATION REACTIONS MAY GENERATE HEAT AND FUMES WHICH CAN BE CONTROLLED BY THE RATE OF ADDITION. OBSERVE ALL FEDERAL, STATE AND LOCAL ENVIRONMENTAL REGULATIONS.

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

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

EC INDEX NO: 007-004-00-1

OXIDIZING

TOXIC

R 8

CONTACT WITH COMBUSTIBLE MATERIAL MAY CAUSE FIRE.

R 35

CAUSES SEVERE BURNS.

S 23

DO NOT BREATHE VAPOR.

S 26

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF WATER AND SEEK MEDICAL ADVICE.

S 36

WEAR SUITABLE PROTECTIVE CLOTHING.

S 36/37/39

WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

S 45

IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK

OEL-ARAB REPUBLIC OF EGYPT:TWA 2 PPM (5 MG/M3) JAN93

OEL-AUSTRALIA:TWA 2 PPM (5 MG/M3);STEL 4 PPM (10 MG/M3) JAN93

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PAGE 5

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OEL-BELGIUM:TWA 2 PPM (5.2 MG/M3);STEL 4 PPM (10 MG/M3) JAN93  
OEL-CZECHOSLOVAKIA:TWA 2.5 MG/M3;STEL 5 MG/M3 JAN93  
OEL-DENMARK:TWA 2 PPM (5 MG/M3) JAN93  
OEL-FINLAND:TWA 2 PPM (5 MG/M3);STEL 5 PPM (13 MG/M3);SKIN JAN93  
OEL-FRANCE:TWA 2 PPM (5 MG/M3);STEL 4 PPM (10 MG/M3) JAN93  
OEL-GERMANY:TWA 10 PPM (25 MG/M3) JAN93  
OEL-HUNGARY:STEL 5 MG/M3 JAN93  
OEL-JAPAN:TWA 2 PPM (5.2 MG/M3) JAN93  
OEL-THE PHILIPPINES:TWA 2 PPM (5 MG/M3) JAN93  
OEL-POLAND:TWA 10 MG/M3 JAN93  
OEL-RUSSIA:TWA 2 PPM;STEL 2 MG/M3;SKIN JAN93  
OEL-SWEDEN:TWA 2 PPM (5 MG/M3);STEL 5 PPM (13 MG/M3) JAN93  
OEL-SWITZERLAND:TWA 2 PPM (5 MG/M3);STEL 4 PPM (10 MG/M3) JAN93  
OEL-THAILAND:TWA 2 PPM (5 MG/M3) JAN93  
OEL-TURKEY:TWA 2 PPM (5 MG/M3) JAN93  
OEL-UNITED KINGDOM:TWA 2 PPM (5 MG/M3);STEL 4 PPM (10 MG/M3) JAN93  
NOHS 1974: HZD 50742; NIS 197; TNF 18088; NOS 101; TNE 132401  
NOES 1983: HZD 50742; NIS 201; TNF 18239; NOS 120; TNE 297627; TFE 76316

EPA TSCA SECTION 8(B) CHEMICAL INVENTORY  
EPA TSCA SECTION 8(D) UNPUBLISHED HEALTH/SAFETY STUDIES  
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1996

U.S. INFORMATION

70.0% NITRIC ACID 7697-37-2

THIS PRODUCT IS SUBJECT TO SARA SECTION 313 REPORTING REQUIREMENTS.

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. ALDRICH SHALL NOT BE HELD LIABLE FOR ANY DAMAGE RESULTING FROM HANDLING OR FROM CONTACT WITH THE ABOVE PRODUCT. SEE REVERSE SIDE OF INVOICE OR PACKING SLIP FOR ADDITIONAL TERMS AND CONDITIONS OF SALE.

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