



REC'D AUG 05 1996

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ALDRICH CHEMICAL COMPANY, INC.
P.O. BOX 355
MILWAUKEE, WISCONSIN 53201, USA

SIGMA-ALDRICH

ATTN: SAFETY DIRECTOR

EMERGENCY PHONE 1-414-273-3850

THE TRANE COMPANY
AFTERMARKET BU
P O BOX 1379
LA CROSSE WI 54602-1379

DATE 07/23/96
CUST#: 939375
PO#: SL4 K72521

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 #: 24426-0
NAME: HYDROBROMIC ACID, 48%, A.C.S. REAGENT

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

CAS #: 10035-10-6
MF: HBR
EC NO: 233-113-0

SYNONYMS

ACIDE BROMHYDRIQUE (FRENCH) * ACIDO BROMIDRICO (ITALIAN) * ANHYDROUS
HYDROBROMIC ACID * BROMOWODOR (POLISH) * BROMWASSERSTOFF (GERMAN) *
BROOMWATERSTOF (DUTCH) * HYDROBROMIC ACID SOLUTION, >49% HYDROBROMIC
ACID (UN1788) (DOT) * HYDROBROMIC ACID SOLUTION, NOT >49% HYDROBROMIC
ACID (UN1788) (DOT) * HYDROGEN BROMIDE (ACGIH:OSHA) * HYDROGEN
BROMIDE, ANHYDROUS (UN1048) (DOT) * UN1048 (DOT) * UN1788 (DOT) *

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

LABEL PRECAUTIONARY STATEMENTS

CORROSIVE
CAUSES SEVERE BURNS.
TOXIC BY INHALATION.
HARMFUL IN CONTACT WITH SKIN AND IF SWALLOWED.
IRRITATING TO RESPIRATORY SYSTEM.
REACTS VIOLENTLY WITH WATER.
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE
IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE).
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF
WATER AND SEEK MEDICAL ADVICE.
KEEP CONTAINER TIGHTLY CLOSED AND IN WELL-VENTILATED PLACE.
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE
PROTECTION.
AIR AND LIGHT SENSITIVE
KEEP TIGHTLY CLOSED.

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

IN CASE OF CONTACT, IMMEDIATELY WASH SKIN WITH SOAP AND COPIOUS
AMOUNTS OF WATER.
CONTAMINATION OF THE EYES SHOULD BE TREATED BY IMMEDIATE AND PROLONGED
IRRIGATION WITH COPIOUS AMOUNTS OF WATER.
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.

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CATALOG #: 24426-0
NAME: HYDROBROMIC ACID, 48%, A.C.S. REAGENT

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.
CALL A PHYSICIAN.
REMOVE AND WASH CONTAMINATED CLOTHING PROMPTLY.

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

EXTINGUISHING MEDIA
NONCOMBUSTIBLE.
DO NOT USE DRY CHEMICAL POWDER EXTINGUISHER ON THIS MATERIAL.
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.

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
EMITS TOXIC FUMES UNDER FIRE CONDITIONS.

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

EVACUATE AREA.
WEAR RESPIRATOR, CHEMICAL SAFETY GOGGLES, RUBBER BOOTS AND HEAVY
RUBBER GLOVES.
COVER WITH DRY-LIME, SAND, OR SODA ASH. PLACE IN COVERED CONTAINERS
USING NON-SPARKING TOOLS AND TRANSPORT OUTDOORS.
VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.

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

REFER TO SECTION 8.

ADDITIONAL INFORMATION
HBR CONTENT 47.0-49.0% CAUTION: REACTS VIOLENTLY WITH FLUORINE AND
OZONE. STORE IN GLASS CONTAINERS.

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

WEAR APPROPRIATE NIOSH/MSHA-APPROVED RESPIRATOR, CHEMICAL-RESISTANT
GLOVES, SAFETY GOGGLES, OTHER PROTECTIVE CLOTHING.
SAFETY SHOWER AND EYE BATH.
USE ONLY IN A CHEMICAL FUME HOOD.
FACESHIELD (8-INCH MINIMUM).
DO NOT BREATHE VAPOR.
DO NOT GET IN EYES, ON SKIN, ON CLOTHING.
AVOID PROLONGED OR REPEATED EXPOSURE.
WASH THOROUGHLY AFTER HANDLING.
CORROSIVE.
TOXIC.
KEEP TIGHTLY CLOSED.

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CATALOG #: 24426-0
NAME: HYDROBROMIC ACID, 48%, A.C.S. REAGENT

DO NOT ALLOW CONTACT WITH WATER.
STORE IN A COOL DRY PLACE.

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

APPEARANCE AND ODOR
COLORLESS LIQUID

PHYSICAL PROPERTIES

FLASHPOINT NONE
VAPOR PRESSURE: 8MM 25 C
SPECIFIC GRAVITY: 1.490
VAPOR DENSITY: 2.8

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

STABILITY
STABLE.

CONDITIONS TO AVOID

GENERATES FLAMMABLE AND/OR EXPLOSIVE HYDROGEN GAS IN CONTACT WITH:
BASES
METALS
HEAT

INCOMPATIBILITIES

STRONG OXIDIZING AGENTS
STRONG BASES
AMMONIA
OZONE
FLUORINE
AIR SENSITIVE
LIGHT SENSITIVE
REACTS VIOLENTLY WITH:
WATER

HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS

TOXIC FUMES OF:
HYDROGEN BROMIDE GAS

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

ACUTE EFFECTS

HARMFUL IF SWALLOWED, INHALED, OR ABSORBED THROUGH SKIN.
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

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VOMITING.

RTECS #: MW3850000
HYDROBROMIC ACID

TOXICITY DATA

IHL-RAT LC50:2858 PPM/1H NTIS** PB214-270
IPR-RAT LD50:76 MG/KG GISAAA 41(1),105,76
IHL-MUS LC50:814 PPM/1H NTIS** PB214-270

ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
(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 - - - - -

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 - - - - -

CONTACT ALDRICH CHEMICAL COMPANY FOR TRANSPORTATION INFORMATION.

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

EUROPEAN INFORMATION

EC INDEX NO: 035-002-01-8

CORROSIVE

R 35

CAUSES SEVERE BURNS.

R 23

TOXIC BY INHALATION.

R 21/22

HARMFUL IN CONTACT WITH SKIN AND IF SWALLOWED.

R 37

IRRITATING TO RESPIRATORY SYSTEM.

R 14

REACTS VIOLENTLY WITH WATER.

S 45

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

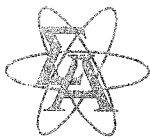
S 26

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

S 7/9

KEEP CONTAINER TIGHTLY CLOSED AND IN WELL-VENTILATED PLACE.

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S 36/37/39
WEAR SUITABLE PROTECTIVE CLOTHING, GLOVES AND EYE/FACE PROTECTION.

REVIEWS, STANDARDS, AND REGULATIONS

OEL=MAK
ACGIH TLV-CL 3 PPM 85INA8 6,771,91
MSHA STANDARD-AIR:TWA 3 PPM (10 MG/M3)
DTLVS* 3,128,71
OSHA PEL (GEN INDU):8H TWA 3 PPM (10 MG/M3)
CFRGBR 29,1910.1000,94
OSHA PEL (CONSTRUC):8H TWA 3 PPM (10 MG/M3)
CFRGBR 29,1926.55,94
OSHA PEL (SHIPYARD):8H TWA 3 PPM (10 MG/M3)
CFRGBR 29,1915.1000,93
OSHA PEL (FED CONT):8H TWA 3 PPM (10 MG/M3)
CFRGBR 41,50-204.50,94
OEL-AUSTRALIA:TWA 3 PPM (10 MG/M3) JAN93
OEL-AUSTRIA:TWA 5 PPM (17 MG/M3) JAN93
OEL-BELGIUM:STEL 3 PPM (9.9 MG/M3) JAN93
OEL-DENMARK:TWA 3 PPM (10 MG/M3) JAN93
OEL-FINLAND:STEL 3 PPM (10 MG/M3):SKIN JAN93
OEL-GERMANY:TWA 5 PPM (17 MG/M3) JAN93
OEL-THE NETHERLANDS:TWA 3 PPM (10 MG/M3) JAN93
OEL-THE PHILIPPINES:TWA 3 PPM (10 MG/M3) JAN93
OEL-POLAND:TWA 7 MG/M3 JAN93
OEL-RUSSIA:STEL 2 MG/M3 JAN93
OEL-SWITZERLAND:TWA 3 PPM (10 MG/M3):STEL 6 PPM (20 MG/M3) JAN93
OEL-TURKEY:TWA 5 PPM (17 MG/M3) JAN93
OEL-UNITED KINGDOM:TWA 3 PPM (10 MG/M3) JAN93
OEL IN BULGARIA, COLOMBIA, JORDAN, KOREA CHECK ACGIH TLV
OEL IN NEW ZEALAND, SINGAPORE, VIETNAM CHECK ACGIH TLV
NIOSH REL TO HYDROGEN BROMIDE-AIR:CL 3 PPM
NIOSH* DHHS #92-100,92
NOHS 1974: HZD 38575; NIS 13; TNF 510; NOS 12; TNE 2643
NOES 1983: HZD 38575; NIS 23; TNF 1103; NOS 26; TNE 20571; TFE 5398
EPA TSCA SECTION 8(B) CHEMICAL INVENTORY
EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, APRIL 1996
NIOSH ANALYTICAL METHOD, 1994: ACIDS, INORGANIC, 7903

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

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M A T E R I A L S A F E T Y D A T A S H E E T P A G E 6

CATALOG #: 24426-0
NAME: HYDROBROMIC ACID, 48%, A.C.S. REAGENT

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