

SIGMA CHEMICAL CO SIGMA DIAGNOSTICS DIVISION -- B0878 N-BUTANOL -- 6810-00-281-2685  
===== Product Identification =====

Product ID:B0878 N-BUTANOL

MSDS Date:01/27/1992

FSC:6810

NIIN:00-281-2685

MSDS Number: BNWJV

=== Responsible Party ===

Company Name:SIGMA CHEMICAL CO SIGMA DIAGNOSTICS DIVISION

Address:3050 SPRUCE ST

City:ST LOUIS

State:MO

ZIP:63103

Country:US

Info Phone Num:800-325-5052/314-771-5

757

Emergency Phone Num:314-771-5765

CAGE:0DK69

=== Contractor Identification ===

Company Name:SIGMA CHEMICAL CO SIGMA DIAGNOSTICS DIV

Address:3050 SPRUCE ST

Box:City:ST LOUIS

State:MO

ZIP:63103-2530

Country:US

Phone:314-771-5765

CAGE:0DK69

===== Composition/Information on Ingredients =====

Ingred Name:N-BUTYL ALCOHOL (SARA III)

CAS:71-36-3

RTECS #:EO1400000

Fraction by Wt: 100%

Other REC Limits:NONE RECOMMENDED

OSHA PEL:100 PPM

ACGIH TLV:S, C 50 PPM; 9293

EPA Rpt Qty:5000 L

BS  
DOT Rpt Qty:5000 LBS

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===== Hazards Identification =====

LD50 LC50 Mixture:ORAL LD50 (RAT) IS 790 MG/KG  
Routes of Entry: Inhalation:YES Skin:YES Ingestion:YES  
Reports of Carcinogenicity:NTP:NO IARC:NO OSHA:NO  
Health Hazards Acute and Chronic:ACUTE: MAY CAUSE IRRITATION TO SKIN,  
EYES, NASAL PASSAGES. MAY CAUSE CENTRAL NERVOUS SYSTEM DEPRESSION  
IF VAPORS INHALED OR LIQUID SWALLOWED. MAY DAMAGE LIVER AND KIDNEYS  
IF VAPORS INHALED OR LIQUID SWALLOWED. CHRONIC: NONE SPECIFIED BY  
MANUFACTURER.  
Explanation of Carcinogenicity:NO INGREDIENT OF A CONCENTRATION OF 0.1%  
OR GREATER IS LISTED AS A CARCINOGEN OR SUSPECTED CARCINOGEN.  
Effects of Overexposure:INHALATION: SNEEZING, WHEEZING, SHORTNESS OF  
BREATH, DIZZINESS, HEADACHE, STUPOR. EYES: REDNESS, TEARING,  
BLURRED VISION. SKIN: REDNESS, RASH, ITCHING. INGESTION: NAUSEA,  
DIZZINESS, HEADACHE, STUPOR, LARYNGITIS.  
Medical Cond Aggravated by Exposure:PRE-EXISTING SKIN OR EYE  
DISORDERS  
MAY BE AGGRAVATED BY EXPOSURE.

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===== First Aid Measures =====

First Aid:CONTACT: IMMEDIATELY FLUSH SKIN OR EYES WITH LOTS OF WATER  
FOR AT LEAST 15 MINUTES WHILE REMOVING CLOTHES AND SHOES. IF  
INHALED: REMOVE PERSON TO FRESH AIR. IF BREATHING DIFFICULT, GIVE  
OXYGEN. IF BREATHING STOPPED, GIVE ARTIFICIAL RESPIRATION. IF  
SWALLOWED: IF CONSCIOUS; WASH MOUTH OUT WITH WATER. GET IMMEDIATE  
MEDICAL ATTENTION.

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===== Fire Fighting Measures =====

Flash Point:95.0F,35.0C  
Autoignition Temp:Autoignition Temp Text:649F  
Lower Limits:1.4%  
Upper Limits:11.2%  
Extinguishing Media:CARBON DIOXIDE, DRY CHEMICAL, OR FOAM. WATER MAY BE  
USED FOR COOLING CONTAINERS BUT MAY NOT EFFECT EXTINGUISHMENT.  
Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS AND  
FULL PROTECTIVE GEAR. USE WATER TO COOL FIRE EXPOSED CONTAINERS.  
Unusual Fire/Explosion Hazard:VAPOR IS HEAVIER THAN AIR AND MAY

TRAVEL

TO SOME DISTANT POINT, FIND AN IGNITION SOURCE AND FLASH BACK.  
CONTAINER EXPLOSION MAY OCCUR UNDER FIRE CONDITIONS.

===== Accidental Release Measures =====

Spill Release Procedures:ELIMINATE IGNITION SOURCES. VENTILATE AREA.  
CONTAIN SPILL. ABSORB WITH INERT MATERIAL. AVOID RUNOFF TO SEWERS  
AND WATERWAYS. WEAR PROPER PROTECTIVE CLOTHING TO INCLUDE SCBA,  
RUBBER BOOTS, AND HEAVY RUBBER GLOVES.

Neutralizing Agent:NONE SPECIFIED BY MANUFACTURE  
R.

===== Handling and Storage =====

Handling and Storage Precautions:STORE IN A COOL, WELL VENTILATED AREA.  
KEEP AWAY FROM IGNITION SOURCES. KEEP CONTAINERS CLOSED WHEN NOT IN  
USE. USE ONLY DOT APPROVED CONTAINERS.

Other Precautions:PROPERLY BOND AND GROUND DURING TRANSFER OPERATIONS.  
USE NON-SPARKING TOOLS.

===== Exposure Controls/Personal Protection =====

Respiratory Protection:BASED ON CONTAMINATION LEVEL USE NIOSH/MSHA

APPROVED RESPIRATOR WITH ORGANIC VAPOR CARTRIDGE OR AIR-SUPPLIED  
RESPIRATOR.

Ventilation:USE LOCAL EXHAUST.

Protective Gloves:NEOPRENE OR RUBBER

Eye Protection:SAFETY GLASSES/CHEMICAL SPLASH GOGGLES

Other Protective Equipment:AT SPILLS USE IMPERVIOUS BODY COVERING AND  
BOOTS. EYE WASH STATION & SAFETY SHOWER SHOULD BE AVAILABLE.

Work Hygienic Practices:WASH HANDS AFTER USE AND BEFORE EATING,  
DRINKING, OR SMOKING. LAUNDER CONTAMINATED CLOTHING BEFORE REUSE.

Supplemental Safety and Health

AVOID BREATHING VAPOR. AVOID CONTACT WITH SKIN, EYES, AND CLOTHING.  
DISCARD CONTAMINATED LEATHER CLOTHING.

===== Physical/Chemical Properties =====

HCC:F4

Boiling Pt:B.P. Text:244F,118C

Melt/Freeze Pt:M.P/F.P Text:-130F,-90C

Vapor Pres:4 MM HG

Vapor Density:2.55

Spec Gravity:0.81

Evaporation Rate & Reference:0.45 (N-BUTYL ACETATE=1)

Solubility in Water:APPRECIABLE

Appearance and Odor:CLEAR, COLORLESS LIQUID WITH ALCOHOL ODOR

Percent Volatiles by Volume:10

## ===== Stability and Reactivity Data =====

Stability Indicator/Materials to Avoid: YES

STRONG OXIDIZING AGENTS, ACID CHLORIDES, ACID ANHYDRIDES, REDUCING AGENTS, COOPER & COPPER ALLOYS, ALUMINUM, ALKALI METALS

Stability Condition to Avoid: IGNITION SOURCES SUCH AS HEAT, SPARKS, OPEN FLAME

Hazardous Decomposition Products: OXIDES OF CARBON

## ===== Disposal Considerations =====

Waste Disposal Methods: DISPOSE OF IN ACCORDANCE WITH LOCAL, STATE AND

FEDERAL REGULATIONS. MANUFACTURER SAYS: INCINERATE AT AN APPROVED FACILITY. DEFINED AS A HAZARDOUS WASTE BY RESOURCE CONSERVATION RECOVERY ACT (40CFR261) . SUBJECT TO SARA SECTION 313 REPORTING.

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