DEODORANT BLOCKS

NFPA/HMIS : Health -2
Flammability - 2
Reactivity - 0

Complies With USDL Safety and Health Regulations, (29 CFR 1910.200)
Material Safety Data Sheet US Department Of Labor

SECTION - 1 CHEMICAL AND COMPANY IDENTIFICATION

PRODUCT NAME: Deodorant Blocks
PRODUCT USE: Solid Deodorant

American Formula
4720 Frederick Drive SW
Atlanta, GA 30336

EMERGENCIES: 1-800-255-3924
REVISION DATE: 03/30/05

SECTION - 2 COMPOSITION ON INGREDIENTS

CAS #	CHEMICAL NAMES	Wt%	TLV (UNITS)
106-46-7	1,4-DICHLOROBENZENE	100%	(8-hr TWA): 10ppm

SECTION - 3 HAZARDS INFORMATION

PRIMARY ROUTE(S) OF ENTRY: Skin contact/absorption and inhalation
TARGET ORGAN EFFECTS: May cause liver and kidney damage.
IMMEDIATE HEALTH EFFECTS
EYES: DANGER - causes eye damage.
SKIN: Causes irritation to skin. Symptoms include redness, burning, drying and cracking, and skin burns. Additional symptoms of skin contact may include: Allergic skin reaction. Skin absorption is possible, but harmful effects are not expected from this route of exposure under normal conditions of handling and use.
INGESTION: Causes damage to the digestive tracts - do not take internally.
INHALATION: Causes damage to the respiratory tracts. Use in well ventilated areas.
REPRODUCTIVE / DEVELOPMENTAL INFORMATION: No Data
CARCINOGENIC INFORMATION: This material is not listed as a carcinogen by IARC, NTP, or OSHA
LONG TERM EFFECTS: No Data

SECTION - 4 FIRST AID MEASURES

EYES: Holding eyelids apart, immediately flush with plenty of water. Continue irrigating with normal saline or water until pH has returned to normal (30-60 minutes). Cover with sterile bandages. Get immediate medical attention; but do NOT transport victim until flushing is completed, unless it can be continued during transport.
SKIN: Immediately wash with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If large areas ofthe body are affected, immediately remove clothing and use safety shower. If irritation and/or discomfort develop cover affectedarea securely with sterile, dry, loose fitting dressing. Treat symptomatically and supportively. Get medical attention.

INHALATION: Immediately remove person to fresh air. If breathing has stopped, administer artificial respiration. If breathing is difficult, have trained person give oxygen. Get immediate medical attention.
INGESTION: If conscious, give 3 glasses of milk or water. Induce vomiting and get medical help immediately. NEVER give anything by mouth to an unconscious person.
CAUTION: Effects of overexposure may be delayed. Keep person under observation.
NOTE TO PHYSICIANS: DO NOT administer adrenaline for inhalation/ingestion overexposure. Increased sensitivity of the heart to adrenalone may be present in affected individual.

SECTION - 5 FIRE FIGHTING MEASURES

FLASH POINT: 150 degrees Fahrenheit (Tagliabue C. C.)
FLAMMABLE LIMITS: Lower: 2.5% by volume at 150 degrees Centigrade Upper: not known
AUTOIGNITION TEMPERATURE: > 1040 degrees Fahrenheit
EXTINGUISHING MEDIA: Water spray, foam, CO2. dry chemical or any Class B extinguishing agent suitable for surrounding fire. Use water spray to keep fire exposed containers cool.
SPECIAL FIRE-FIGHTING PROCEDURES: Wear full protective clothing and NIOSH/MSHA-approved self-contained breathing apparatus where exposure to vapor or gases is possible. Thoroughly decontaminate fire-fighting equipment after use.
UNUSUAL FIRE AND EXPLOSION HAZARDS: Toxic gases (hydrogen chloride, phosgene and carbon monxide) can be evolved in fires of this product. Vapors are heavierthan air and may travel a considerable distance to a source of ignition and flashback.

SECTION - 6 ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Absorb with an inert solid and scoop up for disposal, then rinse soiled area with water down the drain.
LARGE SPILL: Stop leak at the source and collect into a suitable container, then treat as a small spill.

SECTION - 7 HANDLING AND STORAGE

PERSONAL SAFETY PRECAUTIONS
Keep people away. Provide maximum ventilation and eliminate all sources of ignition. Maintain ventilation throughout clean-up procedures. For large spill evacuate spill area. Equip clean-up personnel with NIOSH/MSHA-approved, self-contained breath-ing apparatus or full face-piece, air-line respirators with auxiliary SCBAs operated in the pressure-demand mode and full eye/ skin protection.
SMALL SPILLS
Keep upwind. Allow material to solidify if molten. Scrape and shovel into sealable containers for reclamation or proper disposal.
LARGE SPILLS
Dike spill area. Pump liquid material into metal containers. Carefully shovel or sweep up solid material into metal containers.
Close containers tightly, properly label and store in secure area for reprocessing or disposal. After all visible traces have been removed, thoroughly vacuum spill area. If area is porous, remove contaminated earth, gravel, etc. and place in closed containers for disposal.
CAUTION: Runoff to sewers may create health and pollution hazards. Notify health and regulatory agencies promptly. Release to the environment of 100 pounds or more requires immediate notification to the National Response Center, 1-800-424-8802 or (202) 426-2675, as well as to the local emergency planning committee and the state emergency response commission.

SECTION - 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

AIRBORNE EXPOSURE LIMITS: OSHA PEL: (8-hr TWA): 75ppm ACGIH TLV: (8-hr TWA): 10ppm
STEL: 110ppm
VENTILATION: Vapor inhalation is the most likely route of overexposure. Handle only in well-ventilated area. Provide local exhaust ventilation sufficient to keep air concentrations levels below airborne exposure limits**.**
RESPIRATORY PROTECTION: Avoid breathing vapor, mist, or dust. Use NIOSH/MSHA-approved respiratory protection equipment if airborne exposure limits may exceed permissible limits. Note that airborne exposure may become more significant when molten material is handled. Consult respirator manufacturer to determine appropriate equipment type for givenapplication. Respiratory protection programs must comply with 29 CFR 1910.134.
EYE PROTECTION: Where exposure is likely, wear chemical safety goggles to prevent eye contact and have eye flushing equipment available.
SKIN PROTECTION: Wear full protective clothing, including chemical resistant (e.g. rubber, Vitron, or Nitrile) gloves and impervious boots. Wear full face shield and chemical resistant apron when splashing is likely. Remove contaminated clothing promptly, wash with soap
and water and dry before reuse. Wash contaminated skin promptly and thoroughly.
WARNING: Molten para-dichlorobenzene will cause severe burns. Provide Safety shower at any location where skin contact
with molten material can occur.

SECTION - 9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance and Odor: Solid: White crystals (maybe in formed blocks); penetrating odor Molten: Colorless liquid above 130 degrees Fahrenheit; sharp odor
Boiling Point: 345.2 degrees Fahrenheit (174 degrees Centigrade)
Melting Point 127.4 degrees Fahrenheit (53 degrees Centigrade)
Vapor Pressure: 0.59 mm Hg at 20 degrees Centigrade
Vapor Density: (Air=1) : 5.1
Solubility in water: 0.008
Specific Gravity: 1.246 - 1.250 Log octanol/water partition coefficient 3.52

SECTION - 10 STABILITY AND REACTIVITY

CHEMICAL STABILITY: Product is stable under proper conditions of handling and storage.
MATERIALS TO AVOID: Strong oxidizers, oxidizing agents; hot aluminum and aluminum alloys
CONDITIONS TO AVOID: Open flames, sparks, hot glowing surfaces such as electric arcs, sources of ignition.
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, smoke, soot, hydrogen chloride and phosgene.
HAZARDOUS POLYMERIZATION: Does not occur.

SECTION - 11 TOXICOLOGICAL INFORMATION

ACUTE TOXICITY AND LOCAL EFFECTS
EYE CONTACT: Vapor concentrations between 30 and 60 ppm cause minimal irritation; higher concentrations can cause severe discomfort and/or irritation. Eye contact with solid particles of PDCB can cause severe irritation and pain.
SKIN CONTACT: Molten material will cause severe burns. Solid material is slightly irritating to the skin. Severe overexposure to solid material, however may cause dematitis.
INHALATION: At high concentrations, PDCB is a central nervous system depressant. Inhalation overexposure has been reported to cause headache, dizziness, eye, nose and throat irritation, nausea, feeling of drunkenness, unconsciousness and even death in
confined or poorly ventilated area. Cardiac sensitization leading to ventricular fibrillation may occur in some individuals. The
odor threshold varies from 15 to 30 ppm. Odor becomes strong at concentrations of 30 to 60 ppm, and is painful to the nose at concentrations of 80 to 160 ppm. Above 160 ppm, irritation becomes intolerable.
INGESTION
Accidental ingestion of large amounts of PDCB can cause effects similar to inhalation effects.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE
Asthma or other respiratory disorders; blood, liver, and kidney disorders.
CHRONIC TOXICITY
SKIN CONTACT
Chronic skin contact overexposure can cause dermatitis.
INHALATION
Various long-term chronic inhalation animal research studies have revealed liver, and to a lesser extent, kidney damage in the exposed animals. Similar liver and kidney effects were noted in oral studies with rats and rabbits. These studies indicate potential adverse health effects in humans upon long-term inhalation exposure above the permissible exposure limit. Chronic overexposure effects have not been confirmed in humans. Prolonged PDCB exposure produces a noticeable odor in urine of workers due to the excretion of dichlorophenol, a metabolite of PDCB.
CARCINOGENICITY
PDCB is listed by the NTP as a substance that may “reasonably anticipated to be” carcinogenic and is classified by IARC as a Group 2B carcinogen - “possibly carcinogenic to humans”. It is listed as a carcinogen under California’s Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65). All these listings are based exclusively on studies, which found kidney tumors in male rats and liver tumors in male and female mice. A large body of scientific evidence demonstrates the findings of these studies have only minimal relevance to humans. After a comprehensive review of the relevant scientific evidence, many regulatory and advisory groups, including the USEPA, the US Consumer Product Safety Commission (CPSC) and the World
Health Organization Internal Program for Chemical Safety (IPCS), have rejected the classification of “probable human carcinogen”,
and have adopted the less restrictive classification of “possible human carcinogen”.
TOXICOLOGICAL DATA
Oral LD50 (rat): 3,790mg/kg, moderate toxic
Dermal LD50 (rat): >6,000 mg/kg, slightly toxic
Dermal LD50 (rabbit): 5,010 mg/kg, slightly toxic
Eye irritation (rabbit): 13.7 on a scale of 110.0, slightly irritating
Skin irritation 24-hr. (rabbit): 1.0 on a scale of 8.0, slightly irritating
Porphyria was reported in rats administered PDCB by gavage at a dose of 770 mg/kg/day for 5 consecutive days. In another study, increased incidence of microscopic liver and kidney lesions were observed at the high-dose level in male rats admini-tered PDCB by gavage at 10, 100, and 500 mg/kg/day, 5 days/weel for 4 weeks. No adverse effects on behavior, growth, mortality, hematological data or gross and microscopic examination of the tissue were reported at 10 or 100 mg/kg.
PDCB was given to female rats by gastric intubation at dosages of 18.8, 188, or 376 mg/kg/day for 5 days/week for 4 weeks. Increased liver and kidney weights, decreased spleen weights and microscopic liver lesions were noted in high-dose group animals. Slight increases in liver and kidney weights were reported in mid-dose animals.
NTP Studies: Toxicity and oncogenicity studies were conducted in rats (F344/N) and mice (B6C3F1) with PDCB for the
National Toxicity Program (NTP): Two 13-week oral toxicity studies were conducted in both species. Reductions in body weight
(300 mg/kg or more), hematological parameter changes (300-1,200 mg/kg) and urinary porphyrin changes indicative of a mild
porphyrinuria (1,200-1,500 mg/kg) were reported in rats. Liver weight/brain ratios in rats were elevated at 900 mg/kg or more; kidney weight/brain ratios were affected at doses of 600 mg/kg or greater. Renal tubular cell degeneration (equivocal at 150 mg/kg) with an increase in the number and size of eosinophilic droplets in tubular epithelial cells was found in male rats at a dose of 300 mg/kg or above. At doses which produced mortality (1,200 or 1,500 mg/kg) in rats, microscopic changes in liver, bone marrow, spleen, thymus, and nasal turbinates were found. In mice, reductions in body weight, clinical chemistry and
hematological parameter changes, increased liver/brain weight ratio and microscopic liver changes were found at doses of 600 mg/kg or more. In the oncogenicity studies, PDCB was administered by gavage to male rats at doses of 150 or 300 mg/kg and to female rats
and male and female mice at doses of 300 to 600 mg/kg for 2 years. Body weight depressions and deaths were increased at the high-dose level in rats. Tumors of the kidney (male rat) and liver (male and female mice) were reported. Nonneoplastic lesions were found in the kidney of rats and in the liver, thyroid and adrenal gland of mice.

SECTION - 12 ECOLOGICAL INFORMATION

MARINE POLLUTANT: This product is toxic to fish. Do NOT discharge effluent containing this product into lakes, streams, ponds, estruaries, oceans, or public waters unless this product is specifically identified and addressed in an NPDES permit. Do NOT discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority.
BIODEGRADABILITY: In a 24 -hour, semi-continues activated sludge (SCAS) test, primary degradation was greater than 95%. In a Thompson-Duthie- Sturm biodegradation assay, theoretical CO2 evolution was approximately 58%. PDCB was intermediately to readily
biodegradable in both assays.
ENVIRONMENTAL TOXICITY DATA:
48-hr EC50 (Daphnia magna): 7.4 mg/l, moderately toxic
96-hr LC50 (fathead minnow): 4.2-30 mg/l, moderately toxic
96-hr LC50 (grass shrimp): 60 mg/l, slightly toxic
Fathead minnow eggs were exposed to PDCB at concentrations of 0.57, 1.0, 2.0, 4.1, and 8.7 mg/l. Fry did not survive the 32- day exposure at 2.0 mg/l and higher. Survival and weight of the fry was reduced at 1.0 mg/l.

SECTION - 13 DISPOSAL CONSIDERATION

This product and its container can become hazardous wastes as defined by the EPA under the authority of the Resource
Conservation and Recovery Act (RCRA). The manufacturer recommends material be recovered and/or reprocessed whenever
possible.
RCRA U-Series Hazardous Waste No.: UO72
RCRA D-Series M
CERCLA Reportable Quantity (RCQ): 100 lbs (45.4 kg)

SECTION - 14 TRANSPORT INFORMATION

DOT Proper Shipping Name: RQ Environmentally Hazardous Substance, Solid,
NOS (Para-dichlorobenzene)
DOT Hazard Class/ID no/Packing Group (solid): 9 / UN 3077 / III
DOT Label Requirements (domestic): Class 9 label, shipping name, UN number
DOT Emergency Response Guide: 152
U.S. Surface Freight Classification: 46990 sub 2

SECTION - 15 REGULATORY INFORMATION

US FEDERAL REGULATIONS
Clean Air Act (CAA)
- 111 Hazardous Air Pollutant (HAP): p-dichlorobenzene
- 112 Statutory Air Pollutants: none
- 611 Ozone Depleting Substance(s): none
Superfund Amendments and Reauthorization Act (SARA) Title III (EPCRA)
- 302 Extremely Hazardous Substance(s): none

- 304 CERCLA Hazardous Substance(s): p-dichorobenzene

- 311/312 Substances: This product contains regulated concentrations of the following substances identified as hazardous chemicals under (29 CFR 1910.1200): p-dichlorobenzene
Hazard Category: immediate, delayed, fire

- 313 Toxic Chemicals: This product contains the following substance(s) defined as toxic chemicals under 313 at concentrations subject to the reporting requirements of 313 and 40 CFR Part 372:
CAS Number Chemical Name % (by weight)
106-46-7 p-dichlorobenzene 99.9 (min.)
Toxic Substances Control Act (TSCA)
- PDCB is listed in the Inventory of Chemical Substances published by the EPA under the authority of TSCA

STATE AND LOCAL REGULATIONS
California Proposition 65
PDCB has been listed puruant to Proposition 65 as a “chemical known to the State of California to cause cancer”
Date of listing: 1/1/89
North Carolina Administrative Code 2D.1104 and 2H.0610
Product components listed: p-dichlorobenzene CAS Number: 106-46-7
South Carolina Regulation 62.5 Standard Number 8
Product components listed: p-dichlorobenzene CAS Number: 106-46-7

SECTION - 16 OTHER INFORMATION

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable and suitable to their circumstances.

This information was compiled from current manufacturer’s MSDS’s of the component parts of the product. as well as other sources, such as:

Code of Federal Regulations 29, Revised as of July 1. 1994.

Code of Federal Regulations 40, Revised as of July 1, 1994.

ACGIH, Guide to Occupational Exposure Values, 1996.

ANSI Z129.1-1994, Precautionary Labeling for Hazardous Industrial Chemicals.

Hazard Communication Handbook, A Right To Know Compliance Guide. Craig A. Moyer & Michael Francis. Clark Broadman Company. Ltd. New York, NY 1992

RCRA Regulations and Keyword Index, Compiled and Published by McCoy and Associates, Inc Lakewood, Colorado. 1992.