



SAFETY DATA SHEET

1. Identification

Product identifier AUTILUS

Other means of identification

SDS number 501

Product registration number 5481-8992

Recommended use Fungicide.

Recommended restrictions No other uses are advised.
Keep out of the Reach of Children!

EPA Registration number EPA: 5481-8992

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name AMVAC Chemical Corporation

Address 4685 MacArthur Court
Suite 1200
Newport Beach, CA 92660

Telephone AMVAC Chemical Corp 949-260-1200
AMVAC Chemical Corp 949-260-6270(FAX)

Website www.Amvac-Chemical.com

E-mail CustServ@Amvac-Chemical.com

Emergency phone number Medical 888-681-4261
CHEMTREC® 800-424-9300
(USA+Canada)
Product Use 888-462-6822
CHEMTREC® (Outside USA) +1-703-527-3887

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, inhalation Category 4
Serious eye damage/eye irritation Category 2B
Sensitization, skin Category 1

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 1
Hazardous to the aquatic environment, long-term hazard Category 1

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement

H317 May cause an allergic skin reaction.
H320 Causes eye irritation.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention

P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves.

Response

P301 + P330 + P312 IF SWALLOWED: Rinse mouth. Obtain medical assistance if you feel unwell.
P302 + P350 If on skin: Wash with plenty of water.
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.
P363 Wash contaminated clothing before reuse.
P391 Collect spillage.

Storage

Not available.

Disposal

Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced in section 15. The pesticide label also includes other important information, including directions for use.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Pentachloronitrobenzene		82-68-8	40

Additional components

Chemical name	Common name and synonyms	CAS number	%
Undisclosed Ingredients		N/A	60

Impurities

Chemical name	Common name and synonyms	CAS number	%
Hexachlorobenzene	HCB	118-74-1	≤ 0.02

4. First-aid measures

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Administer oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

Skin contact

Take off contaminated clothing and wash before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes. Hold the eyelids apart during the flushing to ensure rinsing of the entire surface of the eyes and lids with water. Call a physician or poison control center immediately. If there will be a delay in getting medical attention, rinse the eyes an additional 15 minutes.

Ingestion

Immediately give large quantities of water to drink. Never give anything by mouth to a victim who is unconscious or is having convulsions. Do not induce vomiting without advice from poison control center. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

A person suffering from acute exposure to PCNB may exhibit vomiting, hyperirritability, convulsions, conversion of hemoglobin to methemoglobin. Technical Grade PCNB is a slight skin and eye irritant and may lead to contact dermatitis. Toxicology testing has shown PCNB is a skin sensitizer.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

General information In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Not available.

Unsuitable extinguishing media Not available.

Specific hazards arising from the chemical This product may emit hazardous fumes of hydrogen chloride, carbon oxides, nitrogen oxides, and unidentified organic compounds when it is heated excessively or burned.

Special protective equipment and precautions for firefighters Not available.

General fire hazards This is a water base non-flammable liquid that will support fire only if the solvent is evaporated off first.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Not available.

Methods and materials for containment and cleaning up Not available.

Environmental precautions Not available.

7. Handling and storage

Precautions for safe handling Keep away from food, drink and animal feedstuffs. Keep out of the reach of children.

Conditions for safe storage, including any incompatibilities Do not allow material to freeze.

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

Components	Type	Value
Pentachloronitrobenzene (CAS 82-68-8)	TWA	0.5 mg/m3
Impurities	Type	Value
Hexachlorobenzene (CAS 118-74-1)	TWA	0.002 mg/m3

Biological limit values No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

Hexachlorobenzene (CAS 118-74-1) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

Hexachlorobenzene (CAS 118-74-1) Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

Hexachlorobenzene (CAS 118-74-1) Can be absorbed through the skin.

Appropriate engineering controls Not available.

Individual protection measures, such as personal protective equipment

Eye/face protection Not available.

Skin protection

Hand protection Not available.

Other Not available.

Respiratory protection Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards None known.

9. Physical and chemical properties

Appearance	Tan to brown opaque suspension
Physical state	Liquid.
Form	Liquid suspension.
Color	Tan to brown
Odor	Mild chemical odor
Odor threshold	Not available.
pH	4
Melting point/freezing point	Do Not Freeze.
Initial boiling point and boiling range	216 °F (102 °C)
Flash point	210 °F (99 °C) estimated
Evaporation rate	Solvent will evaporate at same rate as water.
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	2.6 % estimated
Flammability limit - upper (%)	12.6 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	2.38E+01 mm Hg @ 25°C.
Vapor density	Equal to air.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Dispersible.
Solubility (solvents)	This product is soluble in ketones and esters.
Auto-ignition temperature	700 °F (371 °C) estimated
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	10.50 lb/gal
Fire point	> 200.00 °F (> 93.33 °C)
Flammability class	Combustible IIIB estimated
Percent volatile	61 % (approximately)
Specific gravity	1.26 @ 20°C/4°C(68°F/39°F).
VOC	8 % estimated

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Not available.
Possibility of hazardous reactions	Not available.
Conditions to avoid	Not available.
Incompatible materials	Strong acids. Strong bases.
Hazardous decomposition products	Not available.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Not available.
Skin contact	Slight skin irritant.

Eye contact	Not available.
Ingestion	May cause discomfort if swallowed.
Symptoms related to the physical, chemical and toxicological characteristics	A person suffering from acute exposure to PCNB may exhibit vomiting, hyperirritability, convulsions, conversion of hemoglobin to methemoglobin. Technical Grade PCNB is a slight skin and eye irritant and may lead to contact dermatitis. Toxicology testing has shown PCNB is a skin sensitizer.

Information on toxicological effects

Acute toxicity May cause an allergic skin reaction. Causes mild eye irritation.

Product	Species	Test Results
AUTILUS		
Acute		
Dermal		
LD50	Rat	> 2020 mg/kg
Inhalation		
<i>Mist</i>		
LC50	Rat	> 2.25 mg/l 4 hr, maximum attainable concentration
Oral		
LD50	Rat	> 5050 mg/kg

Skin corrosion/irritation Causes slight skin irritation.

Serious eye damage/eye irritation Mild irritant. Causes mild eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not considered a respiratory sensitizer.

Skin sensitization Not available.

Germ cell mutagenicity No evidence of mutagenicity has been observed in animal testing.

Carcinogenicity Laboratory studies have shown some carcinogenic effects in the liver and thyroid gland in laboratory animals. There is sufficient evidence that EPA has listed PCNB as a possible human carcinogen (Group C) and the IARC has listed PCNB as a carcinogen (Group 3, sufficient animal evidence). The European Union (EU) has determined that no cancer classification is warranted.

IARC Monographs. Overall Evaluation of Carcinogenicity

Hexachlorobenzene (CAS 118-74-1)	2B Possibly carcinogenic to humans.
Pentachloronitrobenzene (CAS 82-68-8)	3 Not classifiable as to carcinogenicity to humans.
Polychlorinated dibenzofurans (CAS SEQ506096)	3 Not classifiable as to carcinogenicity to humans.
Polychlorinated dibenzo-p-dioxins (CAS SEQ506094)	3 Not classifiable as to carcinogenicity to humans.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

US. National Toxicology Program (NTP) Report on Carcinogens

Hexachlorobenzene (CAS 118-74-1) Reasonably Anticipated to be a Human Carcinogen.

Reproductive toxicity No evidence of reproductive toxicity has been observed in animal studies using pentachloronitrobenzene. Minor embryo-foetal developmental effects were only seen at maternally toxic doses, in the pregnant rat.

Specific target organ toxicity - single exposure Not available.

Specific target organ toxicity - repeated exposure Not available.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.

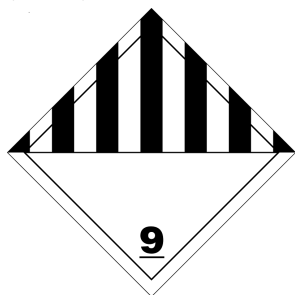
Components	Species	Test Results
Pentachloronitrobenzene (CAS 82-68-8)		
Aquatic		
Crustacea	LC50 Water flea (Daphnia)	0.77 mg/l, 48 hours

Components	Species	Test Results
Fish	LC50	Bluegill (<i>Lepomis macrochirus</i>) Rainbow trout, donaldson trout (<i>Oncorhynchus mykiss</i>)
		0.1 mg/l, 96 hours 0.55 mg/l, 96 hours
Persistence and degradability	No data is available on the degradability of this product.	
Bioaccumulative potential	No data available for this product.	
Partition coefficient n-octanol / water (log Kow)		
Pentachloronitrobenzene	5	
Mobility in soil	Not available.	
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this product.	
13. Disposal considerations		
Disposal instructions	Not available.	
Waste from residues / unused products	Dispose of container and residues in accordance with all applicable regulations.	
Contaminated packaging	Triple rinse (or equivalent). Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with all applicable regulations.	
14. Transport information		
DOT		
UN number	UN3082	
UN proper shipping name	Environmentally hazardous substances, liquid, n.o.s. (Pentachloronitrobenzene RQ = 100 lbs)	
Transport hazard class(es)		
Class	9	
Subsidiary risk	-	
Label(s)	9	
Packing group	III	
Special precautions for user	Not available.	
Special provisions	8, 146, 335, IB3, T4, TP1, TP29	
Packaging exceptions	155	
Packaging non bulk	203	
Packaging bulk	241	
IATA		
UN number	UN3082	
UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s. (Pentachloronitrobenzene)	
Transport hazard class(es)		
Class	9	
Subsidiary risk	-	
Packing group	III	
Environmental hazards	Yes, when shipped over large bodies of water	
ERG Code	9L	
Special precautions for user	Not available.	
Other information		
Passenger and cargo aircraft	Allowed with restrictions.	
Cargo aircraft only	Allowed with restrictions.	
IMDG		
UN number	UN3082	
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Pentachloronitrobenzene), MARINE POLLUTANT	
Transport hazard class(es)		
Class	9	
Subsidiary risk	-	
Packing group	III	
Environmental hazards		
Marine pollutant	Yes	
EmS	F-A, S-F	
Special precautions for user	Not available.	

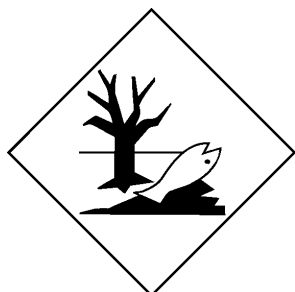
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not available.

DOT; IATA; IMDG



Marine pollutant



General information

This product is not regulated when shipped by highway or rail in non-bulk packaging of less than 25 gallons. When shipped by vessel or in bulk packaging this product is regulated according to the data shown. IMDG Regulated Marine Pollutant.

15. Regulatory information

US federal regulations

This product is registered under EPA/FIFRA Regulations. It is a violation of Federal Law to use this product in any manner inconsistent with its labeling. Read and follow all label directions. This product is excluded from listing requirements under EPA/TSCA.

This is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

HAZARD TO HUMANS AND DOMESTIC ANIMALS.

CAUTION! Causes moderate eye irritation. Harmful if inhaled or absorbed through skin. Avoid contact with eyes, skin, and clothing. Avoid inhalation of vapors and spray mists.

ENVIRONMENTAL HAZARDS

Do not contaminate water supplies. This pesticide is toxic to fish and aquatic organisms. Drift and runoff from treated areas may be hazardous to fish and aquatic organisms in adjacent aquatic sites. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.

Toxic Substances Control Act (TSCA)

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Hexachlorobenzene (CAS 118-74-1)	Listed.
Pentachloronitrobenzene (CAS 82-68-8)	Listed.
Polychlorinated dibenzo-p-dioxins (CAS SEQ506094)	Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories Acute toxicity (any route of exposure)
Serious eye damage or eye irritation
Respiratory or skin sensitization

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Pentachloronitrobenzene	82-68-8	40

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Hexachlorobenzene (CAS 118-74-1)
Pentachloronitrobenzene (CAS 82-68-8)
Polychlorinated dibenzo-p-dioxins (CAS SEQ506094)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

California Proposition 65



WARNING: This product can expose you to Hexachlorobenzene, which is known to the State of California to cause cancer. This product can expose you to chemicals including Hexachlorobenzene, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Hexachlorobenzene (CAS 118-74-1)	Listed: October 1, 1987
Polychlorinated dibenzofurans (CAS SEQ506096)	Listed: October 1, 1992
Polychlorinated dibenzo-p-dioxins (CAS SEQ506094)	Listed: October 1, 1992

California Proposition 65 - CRT: Listed date/Developmental toxin

Hexachlorobenzene (CAS 118-74-1)	Listed: January 1, 1989
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US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

Polychlorinated dibenzo-p-dioxins (CAS SEQ506094)

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	No

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

Issue date	Apr-16-2015
Revision date	Mar-08-2019
Version #	5.0
HMIS® ratings	Health: 2 Flammability: 0 Physical hazard: 0
NFPA ratings	Health: 2 Flammability: 0 Instability: 0

Disclaimer

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NFPA is a trademark of the National Fire Protection Association, Inc.

Revision information

Product and Company Identification: Alternate Trade Names

Composition / Information on Ingredients: Disclosure Overrides

Transport Information: Material Transportation Information

Other information, including date of preparation or last revision: Disclaimer