

Precautionary statement

Prevention

Avoid breathing dust.
Wear protective gloves/protective clothing.
Wear eye protection.
Wash thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.

Response

If skin irritation or rash occurs: Get medical advice/attention.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
If on skin: Wash with plenty of water.
If inhaled: Remove person to fresh air and keep comfortable for breathing.
Call a poison center/doctor if you feel unwell.
Wash contaminated clothing before reuse. Collect spillage.

Storage

Store away from incompatible materials.

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	10

Additional components

Chemical name	Common name and synonyms	CAS number	%
Hexachlorobenzene	HCB	118-74-1	<0.0025

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. Call a physician or poison control center immediately.

Skin contact

Remove contaminated clothing immediately and wash skin with soap and water. Take off contaminated clothing and wash before reuse. In case of eczema or other skin disorders: Seek medical attention and take along these instructions.

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. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Call a physician or poison control center immediately.

Most important symptoms/effects, acute and delayed

Exposed individuals may experience eye tearing, redness, and discomfort. May cause an allergic skin reaction. A person suffering from acute exposure to PCNB may exhibit vomiting, hyperirritability, convulsions, conversion of hemoglobin to methemoglobin. 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. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	None known.
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	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted. 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	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	This material is classified as a water pollutant under the Clean Water Act and should be prevented from contaminating soil or from entering sewage and drainage systems which lead to waterways. Stop the flow of material, if this is without risk. Shovel up, sweep up or vacuum up the material and place in a container for salvage or disposal. Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use.
Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

7. Handling and storage

Precautions for safe handling	Keep away from food, drink and animal feedstuffs. Keep out of the reach of children. Avoid breathing dust. Avoid contact with eyes, skin, and clothing. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.
Conditions for safe storage, including any incompatibilities	Store in original tightly closed container. Store in a well-ventilated place. Do not allow material to freeze. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	PEL	0.05 mg/m ³	Respirable dust.

US. OSHA Table Z-3 (29 CFR 1910.1000)

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.1 mg/m ³	Respirable.
		2.4 mppcf	Respirable.

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.025 mg/m ³	Respirable fraction.
Pentachloronitrobenzene (CAS 82-68-8)	TWA	0.5 mg/m ³	

Additional components	Type	Value
Hexachlorobenzene (CAS 118-74-1)	TWA	0.002 mg/m ³

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Crystalline Silica (CAS 14808-60-7)	TWA	0.05 mg/m ³	Respirable dust.

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 General ventilation normally adequate. Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Wear appropriate chemical resistant gloves.

Other Wear appropriate chemical resistant clothing (see label).

Respiratory protection In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards Not available.

General hygiene considerations Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Gray to brown granules
Physical state	Solid.
Form	Granular.
Color	Gray to brown
Odor	Aromatic solvent odor with musty overtones
Odor threshold	Not established
pH	Not determined
Melting point/freezing point	Not applicable
Initial boiling point and boiling range	Not applicable
Flash point	Not available.
Evaporation rate	Not applicable
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	0.7 % estimated
Flammability limit - upper (%)	5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	1.89E-01 hPa estimated
Vapor density	Not available.
Relative density	0.66 g/cm ³
Solubility(ies)	
Solubility (water)	Not soluble

Solubility (solvents)	The active ingredient is soluble in aromatic and ketone type solvents
Partition coefficient (n-octanol/water)	5 (a.i.)
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Bulk density	41 lb/ft ³
Density	0.66 g/cm ³
Percent volatile	Not applicable

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Contact with incompatible materials.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	This product may emit hazardous fumes of hydrogen chloride, carbon oxides, and unidentified organic compounds when it is heated excessively or burned. WEAR SELF-CONTAINED BREATHING APPARATUS when these conditions are present.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Harmful if inhaled.
Skin contact	May cause an allergic skin reaction. Slight skin irritant.
Eye contact	Direct contact with eyes may cause temporary irritation.
Ingestion	May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Irritation of eyes. Exposed individuals may experience eye tearing, redness, and discomfort. May cause an allergic skin reaction. 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
TURFCIDE® 10G		
<u>acute</u>		
dermal		
LD50	Rabbit	> 2020 mg/kg PCNB Technical
<u>Acute</u>		
Oral		
LD50	Rat	12.37 g/kg

Skin corrosion/irritation Causes slight skin irritation.

Serious eye damage/eye irritation Causes mild eye irritation.

Respiratory or skin sensitization

Respiratory sensitization Not considered a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

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

Crystalline Silica (CAS 14808-60-7)	1 Carcinogenic to humans.
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 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7)	Cancer
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US. National Toxicology Program (NTP) Report on Carcinogens

Crystalline Silica (CAS 14808-60-7)	Known To Be Human Carcinogen.
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 classified.
Specific target organ toxicity - repeated exposure	Not classified.
Aspiration hazard	Not an aspiration hazard.
Chronic effects	Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity	Toxic to aquatic life with long lasting effects. Accumulation in aquatic organisms is expected.
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Components	Species	Test Results	
Pentachloronitrobenzene (CAS 82-68-8)			
Aquatic			
Crustacea	LC50	Water flea (Daphnia)	0.77 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus)	0.1 mg/l, 96 hours
		Rainbow trout, donaldson trout (Oncorhynchus mykiss)	0.55 mg/l, 96 hours

Persistence and degradability	No data is available on the degradability of this product.
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Bioaccumulative potential	No data available for this product.
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Partition coefficient n-octanol / water (log Kow)

Pentachloronitrobenzene	5
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Mobility in soil	No data available.
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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.
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13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site according to all applicable regulations. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with all applicable local/regional/national/international regulations.
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Local disposal regulations	Dispose in accordance with all applicable regulations.
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Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
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Waste from residues / unused products	Dispose of container and residues in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal methods/information).
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Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal in accordance with all applicable regulations. Since emptied containers may retain product residue, follow label warnings even after container is emptied.
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14. Transport information

DOT	
UN number	UN3077
UN proper shipping name	Environmentally hazardous substances, solid, 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** Read safety instructions, SDS and emergency procedures before handling.**Special provisions** 8, 146, 335, A112, B54, IB8, IP3, N20, T1, TP33**Packaging exceptions** 155**Packaging non bulk** 213**Packaging bulk** 240**IATA****UN number** UN3077**UN proper shipping name** Environmentally hazardous substance, solid, n.o.s. (Pentachloronitrobenzene)**Transport hazard class(es)**

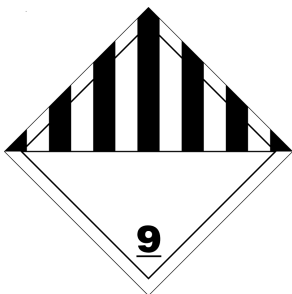
Class 9
Subsidiary risk -

Packing group III**Environmental hazards** Yes, when transported in bulk over large bodies of water**ERG Code** 9L**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.**Other information****Passenger and cargo aircraft** Allowed with restrictions.**Cargo aircraft only** Allowed with restrictions.

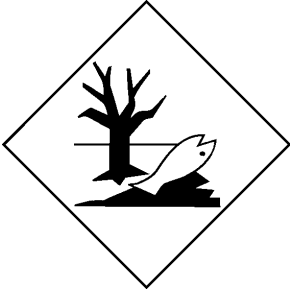
Read safety instructions, SDS and emergency procedures before handling.

IMDG**UN number** UN3077**UN proper shipping name** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Pentachloronitrobenzene), MARINE POLLUTANT (Aromatic 150 - Ing, PCNB TECHNICAL-ING)**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** Read safety instructions, SDS and emergency procedures before handling.Aromatic 150 - Ing
PCNB TECHNICAL-ING**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.**DOT; IATA; IMDG**

Marine pollutant



General information

IMDG Regulated Marine Pollutant.

This product is not regulated when shipped by highway, rail, or air in non-bulk packaging (maximum capacity of 400 kg (880 lb) or less). When shipped by vessel or in bulk packaging this product is regulated according to the data shown.

15. Regulatory information

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

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 chemical 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! Harmful if swallowed, absorbed through skin or inhaled. Avoid breathing dust. May cause skin irritation. Avoid contact with eyes, skin, and clothing.

ENVIRONMENTAL HAZARDS

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. Cover, collect, or incorporate spilled granules. Do not contaminate water when disposing of equipment washwater or rinsate. Do not apply directly adjacent to potable water supplies. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

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 1910.1001-1053)

Crystalline Silica (CAS 14808-60-7)	Cancer lung effects immune system effects kidney effects
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Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories
 Combustible dust
 Acute toxicity (any route of exposure)
 Serious eye damage or eye irritation
 Respiratory or skin sensitization
 Germ cell mutagenicity
 Carcinogenicity
 Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Pentachloronitrobenzene	82-68-8	10

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. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance

Crystalline Silica (CAS 14808-60-7)	Listed: October 1, 1988
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))

- Crystalline Silica (CAS 14808-60-7)
- 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)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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 Aug-08-2016

Revision date Oct-11-2018

References
 ACGIH®: American Conference of Governmental Industrial Hygienists
 CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
 EPA: Environmental Protection Agency
 FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act
 IARC: International Agency for Research on Cancer
 NTP: National Toxicology Program
 OSHA: Occupational Safety and Health Agency
 SARA: Superfund Amendments and Reauthorization Act
 TSCA: Toxic Substances Control Act
 DOT: Department of Transportation
 IMDG: International Maritime Dangerous Goods
 IATA: International Air Transport Association

Version #
HMIS® ratings

2.1
Health: 3*
Flammability: 2
Physical hazard: 0

NFPA ratings

Health: 2
Flammability: 2
Instability: 0

Disclaimer

This information is provided for the limited guidance to the user. While AMVAC believes that the information is, as of the date hereof, reliable, it is the user's responsibility to determine the suitability of the information for its purposes. The user is advised not to construe the information as absolutely complete since additional information may be necessary or desirable when particular, exceptional, or variable conditions or circumstances exist (like combinations with other materials), or because of applicable regulations. No express or implied warranty of merchantability or fitness for a particular purpose or otherwise is made hereunder with respect to the information or the product to which the information relates.

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

Revision information

Product and Company Identification: Alternate Trade Names