

August 31, 1994

IDENTIFICATION OF MICROORGANISMS
CURRENTLY LISTED ON THE
TSCA CHEMICAL SUBSTANCE INVENTORY

EPA wishes to provide manufacturers and processors who are using microorganisms which were listed on the TSCA Chemical Substance Inventory prior to EPA's "Statement of Policy; Microbial Products Subject to the Federal Insecticide, Fungicide, and Rodenticide Act and the Toxic Substances Control Act" (51 FR 23313, June 26, 1986) ("1986 Policy Statement") the opportunity to provide information for a specific, explicit listing, if necessary.

In 1978, when EPA compiled its initial TSCA Inventory, 192 microorganisms were reported. These microorganisms are currently described on the Inventory by taxonomic designations only, without any supplemental information describing how they were made. They are listed in the 1985 Edition, Volume V, of the TSCA Inventory. A list of those microorganisms is attached to this document. None of the identities of the microorganisms reported for the initial Inventory has been claimed as confidential business information. Between the time of the publication of the initial Inventory and 1986, no microorganism were reviewed under the Premanufacture Notice (PMN) requirements of TSCA section 5(a).

In its 1986 Policy Statement, EPA indicated that microorganisms resulting from deliberate, intergeneric combinations of genetic material constitute "new" microorganisms subject to PMN requirements under TSCA section 5(a). Intergeneric microorganisms are defined as those formed by deliberate combinations of genetic material from source organisms in different genera. Additional clarifications of the term "new microorganism" are included in EPA's proposed rule entitled "Microbial Products of Biotechnology; Proposed Regulation under the Toxic Substances Control Act."

EPA believes that most, if not all, of the 192 microorganisms would not be considered new under its proposed rules, since the listings appear to describe microorganisms which are not intergeneric. Thus, these microorganisms would be implicitly included on the Inventory and may continue to be manufactured for general commercial use.

However, EPA wishes to ensure that all listed microorganisms are described in a consistent manner. Accordingly, EPA advises manufacturers and importers of any of the 192 listed

microorganisms to inform EPA of their status under the proposed rules during the public comment period. Any manufacturers of microorganisms that would be considered new under any final rules will be given the opportunity to provide information to EPA to ensure consistent listing of the microorganisms on the Inventory. If EPA is not notified about a microorganism, the Agency will assume it would be implicitly included because it is not intergeneric, and it will be removed from the Inventory list as an explicit listing under EPA's TSCA section 8(b) authority. Following the close of the public comment period on the proposed TSCA biotechnology rule, EPA may begin delisting procedures for any of the 192 microorganisms for which additional information is not received.

EPA has also reviewed a number of intergeneric microorganism PMNs under the 1986 Policy Statement. Most of these microorganisms have been listed on the Inventory following EPA's receipt of a Notice of Commencement to Manufacture. These microorganisms will be retained on the Inventory if the proposed rule becomes final. If changes are made which require alteration of Inventory listings, EPA will announce them in the Federal Register.

**TOXIC SUBSTANCES CONTROL ACT (TSCA)
CHEMICAL SUBSTANCE INVENTORY, 1985 EDITION
VOLUME V: UVCB INDEX**

MICROORGANISMS LISTED

<u>BACTERIA</u>	<u>CAS RN Number</u>
Achromobacter nitriloclastes	68814-68-6
Achromobacter paraffinoclastus	68038-51-7
Arthrobacter globiformis	68038-52-8
Arthrobacter paraffineus	68038-53-9
Arthrobacter rubellus	68038-54-0
Azotobacter agilis	68602-88-0
Azotoacter chroococcum	68038-58-4
Azotobacter vinelandii	68038-59-5
Bacillus	68582-99-0
Bacillus amyloliquefaciens	68038-60-8
Bacillus brevis	68038-61-9
Bacillus cereus	68038-62-0
Bacillus chitinosporus	68038-63-1
Bacillus circulans	68038-64-2
Bacillus coagulans	68038-65-3
Bacillus licheniformis	68038-66-4
Bacillus megaterium	68038-67-5

Bacillus polymyxa	68038-68-6
Bacillus radicicola	68917-87-3
Bacillus stearothermophilus	68038-69-7
Bacillus subtilis	68038-70-0
Bacillus subtilis niger	73398-55-7
Bacillus thuringiensis	68038-71-1
Bacteria (complex with amylase and proteinase)	68038-42-3
Bordetella bronchiseptica	68583-00-6
Cellulomonas	68920-55-8
Cellulomonas biazotea	68038-72-2
Cellulomonas fimi	68038-73-3
Cellulomonas pusilla	68602-91-5
Clostridium pasterianum	68038-82-4
Clostridium perfringens	
B	68583-12-0
C	68583-13-1
D	68583-14-2
Clostridium thermocellum	68038-83-5
Clostridium thermosaccharolyticum	68038-84-6
Corynebacterium hydrocarboclastus	68333-20-0
Corynebacterium dioxydans	68038-86-8
Corynebacterium equi	68583-15-3
Corynebacterium hydrocarboxydans	68333-19-7
Corynebacterium pseudotuberculosis	68583-16-4
Corynebacterium pyogenes	68583-17-5
Corynebacterium renale	68583-16-4
Cytophaga lytica	68333-18-6
Doratomyces purpureo-fuscus	68583-19-7
Erwinia herbicola	68583-21-1
Escherichia coli	68583-22-2
Flavobacterium oxydans	68333-17-5
Klebsiella ozaenae	68583-23-3
Klebsiella pneumoniae	68583-24-4
Lactobacillus acidophilus	68333-16-4
Lactobacillus bulgaricus	68333-15-3
Lactobacillus casei	68333-14-2
Lactobacillus delbrueckii	68919-91-5
Lactobacillus desidiosus	68919-22-2
Leuconostoc oenos	72869-38-6
Micrococcus	68602-92-6
Micrococcus cerificans	68333-13-1
Micrococcus cerrolyticus	68583-25-5
Micrococcus paraffinolyticus	68333-12-0
Micrococcus varians	68333-11-9
Mycobacterium chitae	68333-10-8
Mycobacterium paraffinicum	68333-09-5
Nitrobacter agilis	68333-08-4
Nitrosomonas europaea	68333-07-3

<i>Nocardia corallina</i>	68333-06-2
<i>Nocardia hydrocarbono-oxydans</i>	68333-05-1
<i>Nocardia keratolytica</i>	68333-04-0
<i>Nocardia minima</i>	68333-03-9
<i>Nocardia opaca</i>	68333-02-8
<i>Nocardia paraffinica</i>	68333-01-7
<i>Nocardia rubra</i>	68333-00-6
<i>Nocardia salmonicolor</i>	68332-99-0
<i>Pasteurella haemolytica</i>	68583-26-6
<i>Pasteurella multocida</i>	68583-27-7
mixed strains P-1059, P-1662, and X-73	68583-28-8
<i>Pseudomonas</i>	68602-93-7
<i>Pseudomonas acidovorans</i>	68332-98-9
<i>Pseudomonas aeruginosa</i>	68583-29-9
<i>Pseudomonas alcaligenes</i>	68915-88-8
<i>Pseudomonas alliicola</i>	68332-97-8
<i>Pseudomonas cepacia</i>	68332-96-7
<i>Pseudomonas creosotensis</i>	68332-95-6
<i>Pseudomonas dacunhae</i>	68332-94-5
<i>Pseudomonas desmolytica</i>	68583-30-2
<i>Pseudomonas fluorescens</i>	68332-93-4
<i>Pseudomonas oleovorans</i>	68332-92-3
<i>Pseudomonas polycolor</i>	68583-31-3
<i>Pseudomonas putida</i>	68332-91-2
<i>Rhizobium japonicum</i>	68814-56-2
<i>Rhizobium leguminosarum</i>	68814-57-3
<i>Rhizobium lupini</i>	68814-58-4
<i>Rhizobium meliloti</i>	68814-59-5
<i>Rhizobium phaseoli</i>	68814-60-8
<i>Rhizobium trifolii</i>	68814-61-9
<i>Salmonella cholerae-suis</i>	68583-33-5
<i>Salmonella dublin</i>	68583-34-6
<i>Salmonella typhimurium</i>	68583-35-7
<i>Salmonella typhi-suis</i>	68583-36-8
<i>Serratia liquefaciens</i>	68583-37-9
<i>Serratia marcescens</i>	73559-48-5
<i>Staphylococcus aureus</i>	68583-38-0
<i>Streptococcus</i> group E	68583-39-1
<i>Streptococcus agalactiae</i>	68585-92-2
<i>Streptococcus equisimilis</i>	68585-40-4
<i>Streptococcus faecium</i>	68876-78-8
<i>Streptococcus lactis</i>	68814-39-1
<i>Streptomyces cacaoi</i>	68583-41-5
<i>Streptomyces cellulosae</i>	68583-42-6
<i>Streptomyces cinnamomensis</i>	68814-40-4
<i>Streptomyces diastaticus</i>	68814-41-5
<i>Streptomyces fradiae</i>	68814-42-6
<i>Streptomyces griseus</i>	68814-43-7

<i>Thermoactinomyces vulgaris</i>	68814-45-9
<i>Thermomonospora viridis</i>	68038-96-0
<i>Thermopolyspora polyspora</i>	68038-97-1

FUNGI

<i>Aspergillus niger</i>	68038-55-1
<i>Aspergillus oryzae</i>	68038-56-2
<i>Aspergillus parasiticus</i>	68038-57-3
<i>Aspergillus phoenicis</i>	68602-87-9
<i>Aureobasidium pullulans</i>	67891-88-7
<i>Beauveria bassiana</i>	63428-82-0
<i>Beauveria tenella</i>	67891-89-8
<i>Botrytis cinerea</i>	72882-27-0
<i>Camposporium pellucidum</i>	68038-79-9
<i>Chaetomium globosum</i>	67891-90-1
<i>Chaetomium piluliferum</i>	68038-74-4
<i>Chaetomium reflexum</i>	68038-75-5
<i>Chaetomium thermophilum</i>	67891-91-2
<i>Chrysosporium asperatum</i>	68038-76-6
<i>Chrysosporium keratinophilum</i>	68038-77-7
<i>Chrysosporium pannorus</i>	68038-78-8
<i>Chrysosporium tropicum</i>	68038-80-2
<i>Cladosporium cladosporioides</i>	67891-92-3
<i>Cladosporium resinae</i>	67891-93-4
<i>Clavaria dendroidea</i>	68038-81-3
<i>Conidiobolus coronatus</i>	68038-85-7
<i>Dactylaria brochopaga</i>	67891-94-5
<i>Dactylomyces thermophilus</i>	67891-95-6
<i>Dendryphion nanum</i>	67891-96-7
<i>Endothia parasitica</i>	67891-97-8
<i>Entomophthora bullata</i>	67891-98-9
<i>Entomophthora exitialis</i>	67891-99-0
<i>Entomophthora muscae</i>	67892-00-6
<i>Entomophthora pyriformis</i>	67892-01-7
<i>Entomophthora virulenta</i>	67892-02-8
<i>Eupenicillium ehrlichii</i>	67892-03-9
<i>Eupenicillium parvum</i>	67892-04-0
<i>Fomes</i>	67892-05-1
<i>Fomes pinicola</i>	67892-06-2
<i>Geothichum candidum</i>	67892-07-3
<i>Gliomastix murorum</i>	67892-08-4
<i>Humicola grisea</i>	67892-09-5
<i>Humicola minima</i>	67892-10-8
<i>Lepiota amianthina</i>	67892-11-9
<i>Memnoniella echinata</i>	67892-12-0
<i>Metarrhizium anisopliae</i>	67892-13-1
<i>Mucor pusilis</i>	67892-14-2

<i>Mycena polygramma</i>	67892-15-3
<i>Paecilomyces canadensis</i>	67892-17-5
<i>Paecilomyces farinosus</i>	67892-18-6
<i>Paecilomyces varioti</i>	67892-19-7
<i>Papulaspora polyspora</i>	67892-20-0
<i>Papulaspora thermophila</i>	67892-21-1
<i>Penicillium citrinum</i>	67892-22-2
<i>Penicillium cyaneo-fulvum</i>	68814-53-9
<i>Penicillium cyclopium</i>	68814-54-0
<i>Penicillium proteolyticum</i>	68814-55-1
<i>Pholiota mutabilis</i>	67892-23-3
<i>Pleurotus cystidiosus</i>	68038-87-9
<i>Pleurotus sajor-caju</i>	68038-88-0
<i>Pleurotus sapidus</i>	68038-89-1
<i>Polyporus palustris</i>	68038-90-4
<i>Rhizopus oligosporus</i>	68814-62-0
<i>Rhizopus oryzae</i>	69892-24-4
<i>Scopulariopsis brumptii</i>	68038-91-5
<i>Scopulariopsis chartarum</i>	68038-92-6
<i>Scopulariopsis koningii</i>	68038-93-7
<i>Stachybotrys chartarum</i>	67892-26-6
<i>Stachybotrys cylindrospora</i>	68038-94-8
<i>Stereum complicatum</i>	68038-95-9
<i>Thermomyces verrucosus</i>	67892-27-7
<i>Trametes cubensis</i>	67892-28-8
<i>Trametes serialis</i>	67892-29-9
<i>Trichocladium opacum</i>	67892-30-2
<i>Trichoderma harzianum</i>	67892-31-3
<i>Trichoderma koningii</i>	67892-32-4
<i>Trichoderma longibranchiatum</i>	67892-33-5
<i>Trichoderma viride</i>	67892-34-6
<i>Verticillium lecanii</i>	67892-35-7

MICROORGANISMS (PROTOZOA)

<i>Eimeria</i>	68583-20-0
----------------	------------

YEAST

<i>Myrothecium verrucaria</i>	67892-16-4
<i>Saccharomyces cerevisiae</i>	68876-77-7
<i>Saccharomycopsis lipolytica</i>	67892-25-5
<i>Torula dried</i>	68602-94-8
Yeast extract	8013-01-2

According to the 1985 edition of the TSCA Inventory, each of these substances is exempt from reporting under the proposed Rule for Partial Updating of the TSCA Inventory Data Base Production and Site Reports.