

Conforms to 93/112/EC and ISO 11014-1

Responsible Name Company2

? **Section 1. Chemical Product and Company Identification**

Product name Imperial Stain

Product No. 0024615 0024617 0024625 1901472

Supplier	<i>In USA:</i> Pierce P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723	<i>In Europe:</i> Perbio Science Industriezone III Industrielaan 27 9320 Ereembodegem-Aalst Belgium Tel:+32 53 83 44 04 Fax:+32 53 83 76 38	Manufacturer	Pierce Biotechnology P.O. Box 117 Rockford, IL 61105 USA 815.968.0747 or 1.800.874.3723
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In Case of Emergency CHEMTREC:
800.424.9300
OUTSIDE US:
202.483.7616

Print Date 2/7/2005
Validation Date 12/13/2004
MSDS# 7239

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

 **Section 2. Composition, Information on Ingredients**

Substance/Preparation : Preparation

Ingredient name	CAS number	%	EC number	Classification
Ingredient Name #1		5 - 7		Xn; R22 Xi; R36/37/38
Ingredient Name #2		7 - 10		R10 C; R35
Ingredient Name #3		3 - 5		F; R11

 **Section 3. Hazards Identification**

United States Review the most current and approved institutional guideline, protocol, standard operating procedure(s) and MSDS(s) for the proper handling of institutional materials/equipment associated with the use of this product.

Emergency Overview Warning!
CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION.
CONTAINS MATERIAL WHICH CAUSES DAMAGE TO THE FOLLOWING ORGANS:
BLOOD, KIDNEYS, LUNGS, REPRODUCTIVE SYSTEM, LIVER, HEART, DIGESTIVE
SYSTEM, CARDIOVASCULAR SYSTEM, RESPIRATORY TRACT, SKIN, , CENTRAL
NERVOUS SYSTEM, EYE, LENS OR CORNEA.
MAY BE HARMFUL IF SWALLOWED.

Do not ingest. Avoid contact with skin and clothing. Avoid breathing vapor or mist. Keep container closed. Use only with adequate ventilation. Wash thoroughly after handling.

Target organs Contains material which causes damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, heart, digestive system, cardiovascular system, upper respiratory tract, skin, , central nervous system (CNS), eye, lens or cornea.

Routes of Entry Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eyes Irritating to eyes.

Skin Irritating to skin.

Inhalation Irritating to respiratory system.

Ingestion Harmful if swallowed.

Potential chronic health effects

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Carcinogenic Effects Data

CARCINOGENIC EFFECTS: Classified None. by NIOSH [Ingredient Name #3]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Ingredient Name #3].

MUTAGENIC EFFECTS: Classified PROVEN for human [Ingredient Name #3].

TERATOGENIC EFFECTS: Classified PROVEN for human [Ingredient Name #3].

Medical Conditions Aggravated by Overexposure:

Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection.

Overexposure /Signs/Symptoms

Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Not available.

Europe

Classification Xi; R36/37/38

Physical/chemical hazards Not applicable.

Human health hazards Irritating to eyes, respiratory system and skin.

Environmental hazards Not applicable.

See Toxicological Information (section 11)

+ Section 4. First Aid Measures**Effects and symptoms**

Inhalation Hazardous in case of inhalation (lung irritant). Inhalation of the spray mist may produce severe irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Over-exposure by inhalation may cause respiratory irritation.

Ingestion May be fatal if swallowed.

Skin Contact Hazardous in case of skin contact (irritant). Non-corrosive for skin. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Eye Contact Hazardous in case of eye contact (irritant).

Aggravating conditions Repeated or prolonged contact with spray mist may produce chronic eye irritation and severe skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation leading to frequent attacks of bronchial infection. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

First-Aid Measures

Inhalation In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Ingestion Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention if symptoms appear.

Skin Contact In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately.

Eye Contact In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.

Notes to Physician Not available.

Protection of first-aiders Not available.

 Section 5. Fire Fighting Measures

Flammability of the Product Non-flammable.

Flash Points Not applicable.

Fire Hazards in Presence of Various Substances Not applicable.

Fire Fighting Media and Instructions Use an extinguishing agent suitable for surrounding fires.

Not available.

Protective Clothing (Fire) Not applicable.

Hazardous thermal (de)composition products Not applicable.

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Section 6. Accidental Release Measures

Personal precautions Face shield. Full suit. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves. Boots.

Environmental Precautions and Clean-up Methods Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray curtain to divert vapor drift. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. **Neutralize the residue with a dilute solution of sodium carbonate.** Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Small Spill and Leak Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: **Neutralize the residue with a dilute solution of sodium carbonate.** Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

◇ Section 7. Handling and Storage

Handling Avoid contact with eyes, skin and clothing. Keep container closed. Use only with adequate ventilation. Avoid breathing vapor or mist. Wash thoroughly after handling.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

Packaging materials

Suitable / Not suitable Use original container.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the workstation location.

Exposure Limit Values

Ingredient Name

Occupational Exposure Limits

United States

Ingredient Name #2

ACGIH (United States, 0/2000).

TWA: 10 ppm

STEL: 15 ppm

OSHA (United States, 0/1989).

TWA: 10 ppm

STEL: 37 ppm

NIOSH (United States, 0/1998).

TWA: 10 ppm

STEL: 15 ppm

TWA: 10 ppm

STEL: 15 ppm

Ingredient Name #3

ACGIH TLV (United States, 0/2000).

TWA: 1000 ppm 8 hour(s).

TWA: 1000 ppm 8 hour(s).

NIOSH (United States, 0/1994).

TWA: 1000 ppm

OSHA (United States, 0/1989).

TWA: 1900 mg/m³

Sweden

Ingredient Name #2

AFS (Sweden, 0/1996).

NGV: 5 ppm

TGV: 10 ppm

Ingredient Name #3

AFS (Sweden, 0/1996).

NGV: 500 ppm

KTV: 1900 ppm

TGV: 1000 ppm

Denmark

Ingredient Name #2

DK-Arbejdstilsynet (Denmark, 0/1996).

GV: 10 ppm

Ingredient Name #3

DK-Arbejdstilsynet (Denmark, 0/1996).

GV: 1000 ppm

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Norway

Ingredient Name #2

N-Arbeidstilsynet (Norway, 0/1996).
AN: 10 ppm

France

Ingredient Name #2

INRS (France, 0/1999).
VLE: 10 ppm

Ingredient Name #3

INRS (France, 0/1999).
VME: 1000 ppm
VLE: 5000 ppm

Netherlands

Ingredient Name #2

Arbeidsinspectie (Netherlands, 0/2000).
TGG: 10 ppm

Ingredient Name #3

Arbeidsinspectie (Netherlands, 0/2000).
TGG: 500 ppm

Germany

Ingredient Name #2

BAUA (Germany, 0/1999).
TWA: 10 ppm

Ingredient Name #3

Spitzenbegrenzung: 10 ppm
BAUA (Germany, 0/1999).
TWA: 1000 ppm
Spitzenbegrenzung: 4000 ppm

Finland

Ingredient Name #2

Tyoterveyslaitos (Finland, 0/1998).
TWA: 10 ppm

Ingredient Name #3

STEL: 15 ppm
Tyoterveyslaitos (Finland, 0/1998).
TWA: 1000 ppm
STEL: 1300 ppm

Austria

Ingredient Name #2

AUVA (Austria, 0/1995).
TWA: 10 ppm 8 hour(s).

Ingredient Name #3

AUVA (Austria, 0/1995).
TWA: 1000 mg/m³
Spitzenbegrenzung: 3800 mg/m³

Switzerland

Ingredient Name #2

SUVA (Switzerland, 0/1997).
MAK: 10 ppm 8 hour(s).

Ingredient Name #3

Momentanwert: 20 ppm
SUVA (Switzerland, 0/1997).
MAK: 1000 mg/m³ 8 hour(s).

Belgium

Ingredient Name #2

TWA: 10 ppm
STEL: 15 ppm

Ingredient Name #3

TWA: 1000 ppm

Turkey

Ingredient Name #2

NIOSH (United States, 0/1998).
TWA: 10 ppm

Ingredient Name #3

STEL: 15 ppm
TWA: 10 ppm
STEL: 15 ppm
NIOSH (United States, 0/1994).
TWA: 1000 ppm

Personal Protection

Eyes Splash goggles.

Body Lab coat.

Hands Gloves.

Respiratory Respirator is not needed under normal and intended conditions of use, if exposures are kept below established limits.

Feet Boots.

Protective Clothing
(Pictograms)





Section 9. Physical and Chemical Properties

Physical State and Appearance Liquid.

Color Colorless.

Odor Acetic acid.

Molecular Weight Not applicable.

Taste Not available.

pH (1% Soln/Water) 2 to 2.3 [Acidic.]

Boiling/Condensation Point The lowest known value is 78.4°C (173.1°F) (Ingredient Name #3). Weighted average: 105.6°C (222.1°F)

Melting/Freezing Point May start to solidify at 0°C (32°F) based on data for: Milli-Q Water. Weighted average: -10.4°C (13.3°F)

Specific Gravity Weighted average: 0.99 (Water = 1)

Vapor Pressure The highest known value is 2.3 kPa (17.5 mm Hg) (at 20°C) (Milli-Q Water). Weighted average: 2.08 kPa (15.6 mm Hg) (at 20°C)

Vapor Density The highest known value is 2.6 (Air = 1) (Ingredient Name #5). Weighted average: 0.94 (Air = 1)

Odor Threshold The lowest known value is 1.018 ppm (Ingredient Name #2) Weighted average: 59.88 ppm

Evaporation Rate 1.7 (Ingredient Name #3) compared to (n-BUTYL ACETATE=1)

Viscosity Dynamic: The highest known value is 1.22 cP (Ingredient Name #2)

LogK_{ow} The product is more soluble in water.

Dispersion Properties See solubility in water.

Solubility Easily soluble in hot water.
Partially soluble in cold water.
Insoluble in methanol, n-octanol.



Section 10. Stability and Reactivity

Stability and Reactivity The product is stable.

Conditions to avoid Not available.

Materials to avoid Slightly reactive to reactive with oxidizing agents, metals, acids, alkalis.

Hazardous Polymerization Will not occur.

Hazardous Decomposition Products Not available.



Section 11. Toxicological Information

Toxicity to Animals **Milli-Q Water:**

ORAL (LD50):

Acute: >90000 mg/kg [Rat].

Ingredient Name #2:

ORAL (LD50):

Acute: 3310 mg/kg [Rat]. 4960 mg/kg [Mouse]. 3530

mg/kg [Rat].

DERMAL (LD50):

Acute: 1060 mg/kg [Rat].

VAPOR (LC50):

Acute: 5620 ppm 1 hour(s) [Mouse].

Ingredient Name #1:

ORAL (LD50):

Acute: 1850 mg/kg [Rat].

Ingredient Name #5:

ORAL (LD50):

Acute: 20000 mg/kg [Rat]. 22000 mg/kg [Dog].

DERMAL (LD50):

Acute: 20800 mg/kg [Rabbit].

Ingredient Name #3:

ORAL (LD50):

Acute: 7060 mg/kg [Rat]. 6300 mg/kg [Rabbit]. 3450

mg/kg [Mouse].

Ingredient Name #4:

ORAL (LD50):

Acute: 7120 mg/kg [Rat].

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Imperial Stain

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Chronic Effects on Humans **CARCINOGENIC EFFECTS:** Classified None. by NIOSH [Ingredient Name #3]. Classified A4 (Not classifiable for human or animal.) by ACGIH, 3 (Not classifiable for human.) by IARC [Ingredient Name #3].
MUTAGENIC EFFECTS: Classified PROVEN for human [Ingredient Name #3].
TERATOGENIC EFFECTS: Classified PROVEN for human [Ingredient Name #3].
DEVELOPMENTAL TOXICITY: Classified Development toxin [PROVEN] [Ingredient Name #3].
Contains material which causes damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, heart, digestive system, cardiovascular system, upper respiratory tract, skin, , central nervous system (CNS), eye, lens or cornea.

Other Toxic Effects on Humans Hazardous in case of eye contact (irritant), of ingestion, of inhalation (lung irritant).

Special Remarks on Toxicity to Animals Not available.

Special Remarks on Chronic Effects on Humans Not available.

Special Remarks on Other Toxic Effects on Humans Not available.

Carcinogenicity No known significant effects or critical hazards.

Mutagenicity No known significant effects or critical hazards.

Reproductive toxicity No known significant effects or critical hazards.

Over-exposure signs/symptoms

Inhalation No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Skin No known significant effects or critical hazards.

Target organs Contains material which causes damage to the following organs: blood, kidneys, lungs, the reproductive system, liver, heart, digestive system, cardiovascular system, upper respiratory tract, skin, , central nervous system (CNS), eye, lens or cornea.



Section 12. Ecological Information

Mobility Not available.

Persistence/degradability Not available.

Bioaccumulative potential Not available.

Ecotoxicity Not available.

Germany water class VCI WGK: No products were found.

Ecotoxicity data

Ingredient name

Ingredient Name #2

Species

Minnows (LC50)

Goldfish (LC50)

daphnia (EC50)

Period

96 hour(s)

24 hour(s)

24 hour(s)

Result

88 mg/l

423 mg/l

32 to 47 mg/l

Other ecological information

Persistence/degradability

Ingredient name

BOD₅

COD

Ingredient name

Aquatic half-life

Photolysis

Bioaccumulative potential

Ingredient name

Ingredient Name #2

LogP_{ow}

0.489779

BCF

-

low

Mobility : Not available.

Other adverse effects : No known significant effects or critical hazards.

Continued on Next Page



Section 13. Disposal Considerations

Waste Stream Not available.

Methods of disposal The generation of waste should be avoided or minimized wherever possible. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

European waste catalogue (EWC) Not available.

Hazardous waste The classification of the product may meet the criteria for a hazardous waste

Denmark – Carcinogenic waste Not available.

Denmark - Waste card number Not available.

Denmark - Waste group Not available.

Sweden - thermoset plastic waste Not available.

Sweden - Waste group Not available.

Austria - Waste catalogue Not available.

Norway - Waste number Not available.

Norway - Hazardous waste The classification of the product may meet the criteria for a hazardous waste

Switzerland - Waste code Not available.

Section 14. Transport Information

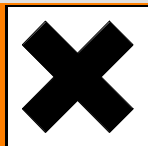
Contact the supplier for all information regarding the proper transportation method for this material.



Section 15. Regulatory Information

Label Requirements (Europe)

R36/37/38- Irritating to eyes, respiratory system and skin.
S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.



Irritant

HCS Classification Irritating material
Target organ effects

U.S. Federal Regulations TSCA 8(b) inventory: Ingredient Name #1; Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Ingredient Name #5; Milli-Q Water

SARA 302/304/311/312 extremely hazardous substances: No products were found.
 SARA 302/304 emergency planning and notification: No products were found.
 SARA 302/304/311/312 hazardous chemicals: Ingredient Name #2; Ingredient Name #3
 SARA 311/312 MSDS distribution - chemical inventory - hazard identification: Ingredient Name #2: Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Ingredient Name #3: Fire hazard, Immediate (Acute) Health Hazard, Delayed (Chronic) Health Hazard; Ingredient Name #5: Immediate (Acute) Health Hazard
 Clean Water Act (CWA) 307: No products were found.
 Clean Water Act (CWA) 311: Ingredient Name #2
 Clean air act (CAA) 112 accidental release prevention: No products were found.
 Clean air act (CAA) 112 regulated flammable substances: No products were found.
 Clean air act (CAA) 112 regulated toxic substances: No products were found.

State regulations Pennsylvania RTK: Ingredient Name #2: (environmental hazard, generic environmental hazard); Ingredient Name #3: (generic environmental hazard)
 Florida: Ingredient Name #3
 Massachusetts RTK: Ingredient Name #2; Ingredient Name #3
 New Jersey: Ingredient Name #2; Ingredient Name #3
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage level</u>
Ingredient Name #3	No.	Yes.	No.	No.

WHMIS (Canada) Class D-2A: Material causing other toxic effects (VERY TOXIC).
 Class E: Corrosive liquid.

CEPA DSL: Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Milli-Q Water

International Regulations

EINECS Not available.

DSCL (EEC) R36/37/38- Irritating to eyes, respiratory system and skin.

International Lists Australia (NICNAS): Ingredient Name #1; Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Milli-Q Water

Germany water class: Ingredient Name #2; Ingredient Name #3

Japan (METI): Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Milli-Q Water

Korea (TCCL): Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Ingredient Name #5; Milli-Q Water

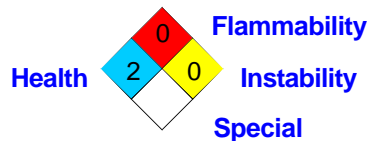
Philippines (RA6969): Ingredient Name #1; Ingredient Name #2; Ingredient Name #3; Ingredient Name #4; Milli-Q Water

State Regulations Pennsylvania RTK: Ingredient Name #2: (environmental hazard, generic environmental hazard); Ingredient Name #3: (generic environmental hazard)
 Florida: Ingredient Name #3
 Massachusetts RTK: Ingredient Name #2; Ingredient Name #3
 New Jersey: Ingredient Name #2; Ingredient Name #3

Section 16. Other Information

Hazardous Material Information System (U.S.A.)	Health	*	1
	Fire hazard		0
	Reactivity		0
	Personal protection		C

National Fire Protection Association (U.S.A.)



References Not available.

History of Document Changes Any information changes since last document version are marked with a triangle symbol.

Full text of R phrases referred to in sections 2 and 3 - Europe R11- Highly flammable.
 R10- Flammable.
 R22- Harmful if swallowed.
 R35- Causes severe burns.
 R36/37/38- Irritating to eyes, respiratory system and skin.

Full text of classifications referred to in sections 2 and 3 - Europe F - Highly flammable
 C - Corrosive
 Xn - Harmful
 Xi - Irritant

Intended Use Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications.

Validated by Company2 on 12/13/2004.	Verified by Company2.	Date of Previous Issue	No Previous Validation
	Printed 2/7/2005.	Version	1.01

Notice to Reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.