Appendix
E Material Safety
Data Sheets (MSDS)



MSDS:00013

Date Created:04/16/00

Worldwide Beauty Care

(Clairol, Inc.; Matrix Essentials, Inc.; Duart Labs; Redmond Products, Inc.)

Bristol-Myers Squibb Company

One Blachley Road Stamford, CT 06922

**Emergency Telephone Number:** 

Transportation Emergency:

(203) 357-5678

Call Chemtrec 1-800-424-9300

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910,1200.

Section I - Categorization

Product Name: Permanent Wave Waving Lotions

Pertinent Text:

Non-flammable water-like liquids containing ammonium thioglycolate with conditioners,

preservatives and fragrance.

Product Names: Gentle Motion Waving Lotion, Opticolor Wave Waving Formula, Opticurl Waving Lotion, Perfecto

Normal and Tinted Hair Waving Lotions, Synerfusion Waving Lotion, Systeme Biolage Acid Wave Waving Lotion, Therma-Vantage Controlled Exothermic Waving Lotions for Tinted and Normal

Hair, VaVoom Volumizing Soft Wave Phase I

Section II - Ingredients identity/Exposure Limits

Permanent Wave Waving Lotions generally contain the following hazardous ingredients (I% concentration or greater; 0.1% for carcinogens):

**CTFA NAME** 

CAS#

AMMONIUM HYDROXIDE

1336216

EXPOSURE LIMIT: 25 PPM TLV, 35 PPM STEL, 50 PPM PEL, AS AMMONIA GLYCERIN EXPOSURE LIMIT: AS A MIST 10 MG/M'TLV, 15 MG/M'TOTAL; 5 MG/M'RESPIRABLE OSHA PEL

56815

ETHANOLAMINE

141435

EXPOSURE LIMIT: 3 PPM TLV, PEL, 6 PPM STEL AMMONIUM THIOGLYCOLATE

5421465

CYSTEINE HCL

52891

DIAMMONIUM DITHIODIGLYCOLATE

UREA57136

68223938

Section III - Physical/Chemical Characteristics

Specific Gravity (H O = 1): 1.01-1.02

pH: 8.5-9.0

Solubility in Water:

Highly soluble.

Appearance and Odor: Yellowish water-like liquids.

Slight ammoniacal and

characteristic mercaptan thio odor,

Section IV - Fire and Explosion

**Hazard Data** Flashpoint:

N/A

Unit: N/A

Method: Not applicable.

Type:

Not applicable.

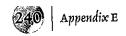
Fire Fighting Procedures:

Extinguish fires with water ABC all-purpose or CO2 extinguisher. The type of extinguisher used should be in conformance with local fire regulations.

Unusual Fire and Explosion Hazards:

On thermal decomposition can release hydrogen sulfide sulfur oxides and ammonia.

Figure E-I An example of a Material Safety Data Sheet (MSDS) for World Wide Beauty Care permanent waving solution (page 1).



# **Physical Hazards**

None.

Section V-Reactivity Data

Stability:

Stable.

Conditions to Avoid:

Metallic bowls or stirrers.

Incompatibility (Materials to Avoid): Heavy metals; oxidizing materials and acids.

Hazardous Decomposition or

Can release hydrogen sulfide; sulfur oxides and ammonia.

BvProducts:

# Section VI-Health Hazards and Hazard Data

The TLV of the mixture has not been established.

1. Effects of Acute Accidental Exposure Potential eve irritant.

Skin Contact:

Potential skin irritant.

Inhalation:

Skin Sensitizer: May induce hypersensitivity and elicit reactions in sensitized people. Respiratory tract irritant due to ammonia and mercaptan (thio) vapors.

Ingestion:

Moderately toxic.

2. Effects of Chronic Exposure For purposes of chronic exposure under the OSHA Hazard Communication Standard this is an untested mixture. These products have been used extensively by consumers. Worldwide Beauty Care is not aware of any significant adverse reaction provided good work practices are observed (wash off skin, remove contaminated clothing, use good ventilation). Release of ammonia vapors may result in irritation of the mucous membranes of the respiratory tract. Published data indicate low level skin sensitization as a result of repeated heavy exposure principally in beauticians.

3. Carcinogen Status:

OSHA: No

NTP: No

IARC: No

4. Route of Entry:

Inhalation: Yes

Ingestion: Yes

Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products.

6. Emergency and First Aid Procedures

Eve Contact:

Remove contact lenses if used. Flush immediately with plenty of water for 15 minutes. Get

medical attention IMMEDIATELY.

Skin Contact:

If spilled wash skin immediately with soap and water (do not use solvents). Change into clean

clothing. If allergic reaction develops contact dermatologist.

Inhalation:

Remove person to fresh air. Increase ventilation.

Ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Employee Health

Services immediately.

# Section VII-Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

**Waste Disposal Method:** 

Disposal should be in accordance with all applicable local state and federal regulations.

Precautions to be Taken in Handling and Storage:

Store products in even normal temperatures. Keep containers tightly closed. Keep out of reach of children.

#### Section VIII-Control Measures

Ventilation:

Should be adequate to avoid concentration of irritating vapors.

Hand Protection: Eye Protection:

Use impervious gloves to avoid possible skin irritation or sensitization. Avoid contact with eyes. Use protective eyewear if splashing is possible.

Other Types of Protection: None.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid all skin, eye, and clothing contact with

products. In case of contact rinse thoroughly with water. Promptly clean up all spills.

Section IX-Transportation

Information

DOT Class: Not regulated.

IMDG: Not regulated.

IATA/ICAO: Not regulated.

Figure E-2 An example of a Material Safety Data Sheet (MSDS) for World Wide Beauty care permanent waving solution (page 2).

MSDS: 00020 Date Approved: 11/1/2000

Worldwide Beauty Care

(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)

Bristoi-Myers Squibb Company

One Blachley Road Stamford, CT 06922

**Emergency Telephone Number:** 

(203) 357-5678

Transportation Emergency:

Call Chemtrec 1-800-424-9300

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

# Section I - Categorization

Category: Relaxers. Alkali metal hydroxides.

Product Names: Textures and Tones

# Section II - Ingredients/Identity Exposure Limits

Relaxers generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CTFA NAME	CAS#
PROPYLENE GLYCOL	57556
PETROLATUM	8027325
CETYL ALCOHOL	36653824
MINERAL OIL	8012951
EXPOSURE LIMIT: 5 mg/m <sup>3</sup> TLV, PEL, as an Oil Mixt	
POLYSORBATE 60	9005678
SODIUM HYDROXIDE	1310732
EXPOSURE LEMIT: C 2 mg/m <sup>3</sup> , PEL	
CETEARYL ALCOHOL	67762270
CALCIUM HYDROXIDE	1305620
FRAGRANCE	999999999
POLYQUATERNIUM-28	98000022
GUANIDINE CARBONATE	593851

# Section III - Physical/Chemical Characteristics

Specific Gravity (H<sub>2</sub>O=1): Approximately 0.9

Solubility in Water: Partly miscible.

Appearance and Odor: Thick, white cremes with fragranced odor.

pH: N/A

TRADE MSDS #20

Page 1 of 3

**Figure E-3** An example of a Material Safety Data Sheet (MSDS) for alkali metal hydroxide hair relaxers (page 1).



Section	M -	Fire	and	Explosion	Hazard	Data

Flashpoint: N/A

Unit: N/A

Method: Not applicable.

Type: Not applicable.

Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards:

None.

Physical Hazards:

None.

Section V - Reactivity Data

Stability:

Stable.

Conditions to Avoid:

Heat and sunlight. Acids; metal containers.

Incompatibility (Materials to Avoid):

None.

Hazardous Decomposition or By Products:

Section VI - Health Hazards and Hazard Data The TLV of the mixture has not been established. 1. Effects of Acute Accidental Exposure

**Eye Contact:** 

Severe eye irritant. CORROSIVE.

Skin Contact: CORROSIVE.

Inhalation:

Not likely to be inhaled.

Ingestion:

Will result in severe irritation to mouth, esophagus and gastrointestinal tract.

2. Effects of Chronic Exposure

For purposes of chronic exposure under the OSHA Hazard Communication Standard, this is an untested mixture. No chronic adverse effects are expected. Target Organs: These products contain an ingredient which have been shown to affect tissues or organs under high levels of exposure in animal studies not encountered in normal use. Propylene Glycol: Kidney.

3. Carcinogen Status:

NTP: No

IARC: No

OSHA: No 4. Route of Entry:

Ingestion: Yes Inhalation: No 5. Pre-existing dermatitis would likely be made worse by exposure to these products.

TRADE MSDS #20

Page 2 of 3

Figure E-4 An example of a Material Safety Data Sheet (MSDS) for alkali metal hydroxide hair relaxers (page 2).

# 6. Emergency and First Aid Procedures

Eye Contact:

Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Get medical attention IMMEDIATELY.

Skin Contact:

If spilled, wash skin immediately with soap and water (do not use solvents). Change into clean clothing. If skin reaction develops, contact dermatologist.

Inhalation:

Remove person to fresh air. Increase ventilation.

Ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control Center.

# Section VII - Precautions for Safe Handling and Use

# Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

# Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA. Additionally, disposal should be in accordance with all applicable Local, State and Federal Regulations.

# Precautions to be Taken in Handling and Storage:

Store products in even, normal temperatures. Keep containers tightly closed.

# Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

**Hand Protection:** 

CORROSIVE. Use impervious gloves to avoid possible skin irritation or sensitization.

Eye Protection:

Severely irritating/corrosive. Avoid contact with eyes.

Other Types of Protection:

Not applicable.

#### Respiratory Protection:

Avoid inhalation.

#### Work Hygienic Practices:

Always follow good hygienic work practices. Avoid eye, clothing, and prolonged skin contact with products. In case of contact, rinse thoroughly with water. Promptly clean up all spills.

# Section IX - Transportation Information

**DOT Class:** Consumer Commodity ORMD up to 2-1/1 lbs., Over 2-1/2 lbs: Corrosive solid, basic, organic, N.O.S., 8, UN3263, PGII, (Contains Sodium Hydroxide).

IMDG: Corrosive Solid Basic Organic N.O.S., (Contains Sodium Hydroxide), 8, UN 3263, PGII

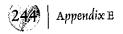
IATA/ICAO: Corrosive Solid, Basic, Organic, n.o.s. (contains sodium hydroxide) 8, UN3263, Packing Instruction;

Passenger Aircraft 814 II Cargo Aircraft 816 II

TRADE MSDS #20

Page 3 of 3

**Figure E-5** An example of a Material Safety Data Sheet (MSDS) for alkali metal hydroxide hair relaxers (page 3).



Kenra, LLC 6501 Julian Ave., Indianapolis, IN 46219 QP BLACK INDIGO COLOR Product Name **Product Description** 17-Jul-00 **Revision Date:** 560804 MSDS Number: Section 2 - Hazardous Ingredients / Identity Information TLV or PEL Other Limits Percentage **CAS Number Hazardous Components** N/A N/A N/A N/A None Section 3 - Physical/Chemical Characteristics Specific Gravity H20 = 1 1.005 N/A **Boiling Point** N/A N/A Vapor Pressure (mm Hg.) **Melting Point** N/A N/A Evaporation Point(Butyl Acetate = 1) Vapor Density (AIR = 1) Solubility in Water Semi Bluish black opaque / neutral odor. Appearance and Odor Section 4 - Fire and Expolsion Hazard LEL UEL Flammable Limits Flash Point (Method Used) N/A N/A N/A N/A **Extinguishing Media** All purpose extinguisher. Special Fire Fighting Procedures N/A Unusual Fire and Explosion Hazards N/A Section 5 - Reactvity Data Stability Unstable **Conditions to Avoid V** N/A Stable Incompatibilty (Materials to Avoid) N/A **Hazardous Decomposition or Byproducts** N/A **Conditions to Avoid** Hazardous May Occur Polymenzation N/A May Not Occur 

Figure E-6 An example of a Material Safety Data Sheet (MSDS) for semi-permanent haircolor. (Reprinted with permission of Kenra LLC.)

# MSDS:0001C

Date Approved:
Worldwide Beauty Care
(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)
Bristol-Myers Squibb Company

One Blachley Road Stamford, CT 06922

Emergency Telephone Number: (203) 357-5678

Transportation Emergency: Call Chemtrec 1-800-424-9300

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Section I - Categorization

Product Category: Ammoniacal Oxidation (Permanent) Hair Colors, Flammable

Pertinent Text: Oxidation Hair Colors contain low concentrations of dye intermediates in an aqueous base.

They are mixed with the developer (hydrogen peroxide) before use. A separate MSDS exists

for hydrogen peroxide.

Miss Clairol, Summer Blonde Lightener, Complements Gel Color Permanent, Creme Toner **Product Names:** 

Section II - Ingredients Identity/Exposure Limits
Ammoniacal Oxidation (Permanent) Hair Colors, Flammable generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

ingle coloring (176 concentration of greater; 0.1% for carcinogens);	
CTFA Name	CAS Number
M-AMINOPHENOL	591275
N,N-BIS(2-HYDROXYETHYL)-P-PHENYLENEDIAMINE SULFATE	58262445
RESORCINOL	108463
EXPOSURE LIMIT: 10 ppm TLV, 20 ppm STEL	
P-PHENYLENEDIAMINE	106503
EXPOSURE LIMIT:0.1 mg/m3 TLV, PEL, SKIN, OSHA	
PROPYLENE GLYCOL	57556
AMMONIUM HYDROXIDE	1336216
EXPOSURE LIMIT:25 ppm TLV, 35 ppm STEL, 50 ppm PEL, as AMMONIA	
ETHOXYDIGLYCOL	111900
ETHANOLAMINE	141435
EXPOSURE LIMIT:3 ppm TLV, PEL, 6 ppm STEL	
NONOXYNOL-4	7311275
OLEALKONIUM CHLORIDE	37139994
HEXYLENE GLYCOL	107415
EXPOSURE LIMIT:25 ppm CEILING ACGIH	
OLEIC ACID	112801
STEARYL ALCOHOL	112925
SOYTRIMONIUM CHLORIDE	61790418
ISOPROPYL ALCOHOL	67630
EXPOSURE LIMIT:400 ppm TLV, PEL, 500 ppm STEL	
NONOXYNOL-2	27176938
LAURYL ALCOHOL	112538
4-AMINO-2-HYDROXYTOLUENE	2835952
STEARETH-21	977080811
PEG-15 COCOPOLYAMINE	977159208
COCAMIDE MEA	68140001

Figure E-7 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors with ammonia (page 1).

98000176 PEG-3 DIOLEOYLAMIDOETHYLMONIUM METHOSULFATE 999999999 FRAGRANCE 977080811 STEARETH-21 57556 PROPYLENE GLYCOL 61790418 SOYTRIMONIUM CHLORIDE 111057 **OLEAMIDE MIPA** 53694170 POLYQUATERNIUM-22 69430246 CYCLOMETHICONE 61791455 DIHYDROXYETHYL TALLOW GLYCINATE 56815 GLYCERIN EXPOSURE LIMIT: AS A MIST 10 mg/m3 TLV, 15 mg/m3 TOTAL: 5 mg/m3

RESPIRABLE OSHA PEL

Solubility in Water:

2315675 OCTOXYNOL-1

Section III - Physical/Chemical Characteristics

Specific Gravity (H2O = 1):0.995 -1.009

Partly soluble.

9.5 - 10.8

Appearance and Odor: Fragranced liquids. Ammoniacal odor.

Section IV - Fire and Explosion

Hazard Data Flashpoint:

<1000

Unit:

Fahrenheit

Type:For products containing alcohol.

Method:

closed cup

Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards:

Not applicable. Physical Hazards

According to OSHA, these products are considered to be flammable.

Section V - Reactivity Data

Stability:

Stable. Conditions to Avoid:

Incompatibility (Materials of Avoid): Hazardous Decomposition or

ByProducts:

Heat and sunlight. Acids.

May form toxic materials (carbon dioxide,carbon monoxide and

ammonia).

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established. 1. Effects of Acute Accidental Exposure

Eye Contact:

CAUTION. Unmixed oxidation haircolors are eye irritants. When oxidation haircolors are mixed with developers (hydrogen peroxide), the mixture may cause severe irritation and

possible permanent eye injury.

Skin Contact: Inhalation:

May cause skin irritation or sensitization in sensitized individuals. Inhalation of ammonia vapors may result in respiratory irritation.

Ingestion: Moderately toxic.

2. Effects of Chronic Exposure

A composite mixture of oxidation dyes has been tested in prolonged topical exposure studies of laboratory animals. No adverse effects on growth, reproduction or general health were observed. In topical studies no target

Figure E-8 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors with ammonia (page 2).



organ toxicity was observed other than limited effect on treated skin.

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: Yes Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products.

# 6. Emergency and First Aid Procedures

**Eye Contact:** Remove contact lenses. Flush immediately with plenty of water for 15 minutes. Get medical attention IMMEDIATELY.

If spilled, wash skin immediately with soap and water (do not use solvents). Change into Skin Contact:

clean clothing. If skin irritation or sensitization develops, contact dermatologist. Inhalation:

Remove person to fresh air. Increase ventilation.

Ingestion: Rinse out mouth with water and administer large amounts of milk. Contact Poison Control

Center.

# Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

Waste Disposal Method:

Products covered by this MSDS,in their original form, are considered non-hazardous waste according to RCRA (40 CFR 261.21(1) ). Additionally, disposal should be in accordance with all applicable Local, State and Federal regulations.

Precautions to be Taken in Handling and Storage:

Follow flammable liquid handling and storage requirements. Do not store any haircolor after it has been mixed with developer. Decomposition of hydrogen peroxide may occur with increase in pressure and possible container rupture. Keep away from heat and other ignition sources.

# Section VIII - Control Measures

Exhaust system ventilation should be adequate to avoid buildup of vapors.

**Hand Protection:** 

Use impervious gloves to avoid possible skin irritation/sensitization.

Eye Protection:

Avoid contact with eyes. Use protective eyewear, if splashing is possible.

Other Types of Protection:

Not applicable.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid all skin, eye, and clothing contact with products. In case of contact rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation

Information

**DOT Class:**Consumer

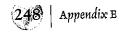
Commodity ORM-D

**IMDG:**Ethanol Solutions (Limited Quantity) 3.3 UN1170, PGIII (Flash Point)

IATA/ICAO:Consumer Commodity Class: 9, ID 8000

Packing Instruction 910

Figure E-9 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors with ammonia (page 3).



# MSDS:0001F-1

**Date Approved:** 

Worldwide Beauty Care (Clairol, Inc.; Duart Labs; Redmond Products, Inc.)

Bristol-Myers Squibb Company

One Blachley Road

Stamford, CT 06922 **Emergency Telephone Number:** 

Transportation Emergency: Call Chemtrec 1-800-424-9300

(203) 357-5678

Call Chemitrec 1-600-424-5500

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

Section I - Categorization

Product Category: Oxidation (Permanent) Hair Colors - Non-Ammonia-Non -Flammable

Pertinent Text:

**Product Names:** Radiance Color Gloss

Section II - Ingredients Identity/Exposure Limits

Oxidation (Permanent) Hair Colors - Non-Ammonia-Non -Flammable generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CAS Number CTFA Name M-AMINOPHENOL 591275 N,N-BIS(2-HYDROXYETHYL)-P-PHENYLENEDIAMINE SULFATE 58262445 5307142 2-NITRO-P-PHENYLENEDIAMINE 108463 RESORCINOL EXPOSURE LIMIT:10 ppm TLV, 20 ppm STEL 106503 P-PHENYLENEDIAMINE EXPOSURE LIMIT:0.1 mg/m3 TLV, PEL, SKIN, OSHA 111900

ETHOXYDIGLYCOL LAURETH-23 9002920 9005645 POLYSORBATE 20 9014931A NONYL NONOXYNOL-49 112801 OLEIC ACID AMINOMETHYL PROPANOL 124685 608253 2-METHYLRESORCINOL

DIHYDROXYPROPYL PEG-5 LINOLEAMMONIUM CHLORIDE 98000070 977091647 **AMODIMETHICONE** 

Section III - Physical/Chemical Characteristics

Specific Gravity (H2O = 1):0.995-1.009 Solubility in Water:

:Ha

9.5-10.5

Appearance and Odor: Fragranced liquids. Partly soluble.

Section IV - Fire and Explosion

**Hazard Data** Flashpoint:

Not applicable.

Unit: Method:

Not applicable.

Type:Not applicable.

Fire Fighting Procedures:

Extinguish fires with water, ABC all-purpose or C02 extinguisher. The type of extinguisher used should be in conformance with local fire regulations.

Figure E-10 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors without ammonia (page 1).



Unusual Fire and Explosion Hazards:

Not applicable. Physical Hazards

None.

চঃ Section V - Reactivity Data

Stable.

Stability:
Conditions to Avoid:
Incompatibility (Materials of Avoid): Heat and sunlight.

Acids. Hazardous Decomposition or

**ByProducts:** 

None.

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established.

1. Effects of Acute Accidental Exposure

Eye Contact: CAUTION. Unmixed oxidation haircolors are eye irritants. When oxidation haircolors are

mixed with developers (hydrogen peroxide), the mixture may cause severe irritation and

possible permanent eye injury.

**Skin Contact:** May cause skin irritation or sensitization in sensitized individuals.

Inhalation: Inhalation of vapors may result in respiratory irritation.

Ingestion: Moderately toxic.

2. Effects of Chronic Exposure

These products contain 2-nitro-p-phenylenediamine, which fed at extremely high doses, were found to cause benign liver tumors in female mice (NTP). These effects were not observed in feeding studies in male mice or male and female rats. Independent pathologists and oncologists have concluded that the results are not relevant to human health. In topical studies no target organ toxicity was observed other than limited effects on treated skin. 3. Carcinogen Status:

OSHA: No NTP: Yes (2 Nitro PPD) IARC: 2 Nitro PPD is not Classifiable (Group 3)

4. Route of Entry:

Inhalation: No Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products. Bronchitis may be aggravated by irritant vapors.

6. Emergency and First Aid Procedures

Remove contact lenses,if used. Flush immediately with plenty of water for 15 minutes. Get medical attention IMMEDIATELY. Eye Contact:

**Skin Contact:** If spilled wash skin immediately with soap and water (do not use solvents). Change into

clean clothing. If skin irritation or sensitization develops, contact dermatologist. Inhalation:

Remove person to fresh air. Increase ventilation. Ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control

Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA. Additionally, disposal should be in accordance with all applicable Local, State and Federal regulations.

Precautions to be Taken in Handling and Storage:

Do not expose to sunlight. Keep away from radiators and heat. Do not store any haircolor after it has been mixed with developer. Decomposition of hydrogen peroxide may occur with increase in pressure and possible container

Section VIII - Control Measures

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin irritation/sensitization.

Eve Protection:

Figure E-11 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors without ammonia (page 2).

Avoid contact with eyes. Use protective eyewear, if splashing is possible. Other Types of Protection: Not applicable. Respiratory Protection: Avoid inhalation. Work Hygienic Practices: Always follow good hygienic work practices. Avoid all skin, eye, and clothing contact with products. In case of contact rinse thoroughly with water. Promptly clean up all spills. Section IX - Transportation Information IATA/ICAO:Not regulated. IMDG:Not regulated. DOT Class: Not regulated. Figure E-12 An example of a Material Safety Data Sheet (MSDS) for permanent oxidation haircolors without ammonia (page 3). (Reprinted with permission of Clairol Inc.) Material Safety Data Sheet MSDS: 00002-1 Date Approved: 11/1/2000 Worldwide Beauty Care (Clairol, Inc.; Duart Labs; Redmond Products, Inc.) Bristol-Myers Squibb Company One Blachley Road Stamford, CT 06922 Transportation Emergency: **Emergency Telephone Number:** Call Chemtrec 1-800-424-9300 (203) 357-5678 This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Section I - Categorization Category: Semipermanent Hair Colors. Non-ammoniacal hair dye formulations used without peroxide. Product Names: Silk & Silver Shades Section II - Ingredients/Identity Exposure Limits Semipermanent Hair Colors generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CASA CTFA NAME 111900 ETHOXYDIGLYCOL 9004620 HYDROXYETHYLCELLULOSE OLEIC ACID 112801 8051636 PEG-50 TALLOW AMIDE 124685 AMINOMETHYL PROPANOL 33229344 HC BLUE NO. 2 TRIMETHYLSILYLAMODIMETHICONE 977088826 LAURAMIDE DEA 120401

Section III - Physical/Chemical Characteristics

Specific Gravity (H2O=1): 0.992 -1.997

Solubility in Water: Miscible.

Appearance and Odor: Clear fragranced amber liquid.

Figure E-13 An example of a Material Safety Data Sheet (MSDS) for semi-permanent non-oxidation baircolors, without peroxide or ammonia (page 1).

**bH:** 8.3-9.3

Section IV - Fire and Explosion Hazard Data

Flashpoint: > 2000 Unit: Fahrenheit Type: Not applicable. Method: closed cup Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self-contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards:

None.

Physical Hazards:

None,

Section V - Reactivity Data

Stability: Stable.

Conditions to Avoid: Heat and sunlight. Incompatibility (Materials to Avoid): Not applicable. None.

**Hazardous Decomposition or By Products:** 

Section VI - Health Hazards and Hazard Data The TLV of the mixture has not been established. 1. Effects of Acute Accidental Exposure

Eye Contact:

CAUTION. Eve irritant.

Skin Contact:

May cause skin irritation or sensitization in sensitized individuals.

inhalation:

Not likely to be irritating.

Ingestion:

Moderately toxic.

2. Effects of Chronic Exposure

National Toxicology Program studies on diethanolamine (DEA), itself and fatty acid condensates containing free diethanolamine (lauramide and cocamide diethanolamines), indicated an increased incidence of kidney and/or liver tumors in mice dermally exposed for their lifetime. The significance of these findings and their potential relevance to humans are not clear and further studies are in progress. Diethanolamine or its condensates did not induce tumors in rats. In the interim, the U.S. CIR, which had previously considered these materials as "safe as used", has expressed reservation over NTP's conclusions and saw no need to revise its conclusions until several outstanding questions on the NTP methodology are answered.

The semipermanent dye products have been tested in lifetime skin painting studies on laboratory animals. No adverse effects on growth, reproduction or general health were observed. In topical studies, other than limited effect on treated skin, no target organ toxicity was observed to any organ.

3. Carcinogen Status:

OSHA: No NTP: Yes (DEAs)

IARC: DEA is not Classifiable (Group 3)

4. Route of Entry:

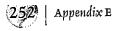
Inhalation: No

Ingestion: Yes

Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products.

Figure E-14 An example of a Material Safety Data Sheet (MSDS) for semi-permanent non-oxidation haircolors, without peroxide or ammonia (page 1).



# Section VI – Health Hazards and Hazard Data (Continued)

#### 6. Emergency and First Aid Procedures

Eye Contact:

Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Get medical attention IMMEDIATELY.

Skin Contact:

If spilled, wash skin immediately with soap and water (do not use solvents). Change into clean clothing. If skin irritation or sensitization develops, contact dermatologist.

Inhalation:

Remove person to fresh air. Increase ventilation.

ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control Center.

#### Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA. Additionally, disposal should be in accordance with Local, State and Federal Regulations.

Precautions to be Taken in Handling and Storage:

Do not expose to sunlight. Keep away from radiators and heat.

#### Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin irritation/sensitization.

Eve Protection:

Ayoid contact with eyes. Use protective eyewear, if splashing is possible.

Other Types of Protection:

Not applicable.

**Respiratory Protection:** 

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid all skin, eye, and clothing contact with products. In case of contact, rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation Information

DOT Class: Not regulated.
IMDG: Not regulated.

IATA/ICAO: Not regulated.

Figure E-15 An example of a Material Safety Data Sheet (MSDS) for semi-permanent non-oxidation baircolors, without peroxide or ammonia (page 2).

#### MSDS:00006

Date Approved:

Worldwide Beauty Care

(Clairol, Inc.; Duart Labs; Redmond Products, Inc.) Bristol-Myers Squibb Company

One Blachley Road Stamford, CT 06922

Emergency Telephone Number: (203) 357-5678 Transportation Emergency: Call Chemtrec 1-800-424-9300

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Section I - Categorization

Product Category: Lightener Lotions

Pertinent Text: Hair lighteners are composed of lightener lotions that are mixed with hydrogen peroxide

(developers). A third component is often added to accelerate the lightening. These are called either protinators or accelerators and they are found under the category of Bleach Powders. This MSDS covers Lightener Lotions. Consult separate MSDS's for bleach powder

**Product Names:** 

Powders. This Mous covers Lightener Louidis. Consult separate Mous not bleach powand hydrogen peroxide (developers).

Born Blonde Liquid Lightener, 7th Stage Liquid Lightener, Complements Lightening Gel, Instant Whip Liquid Lightener, Maxi Blonde Lightener, Ultra Blue Creme Lightener, Ultra Blue Lady Clairol Lightener, Xtreme FX Bleach-Out Lotion Lightener, Frost & Tip Highlightening Powder, BW Violet Creme Lightener

Section II - Ingredients Identity/Exposure Limits

Lightener Lotions generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CTFA Name CAS Number PROPYLENE GLYCOL 57556

AMMONIUM HYDROXIDE 1336216

EXPOSURE LIMIT:25 ppm TLV, 35 ppm STEL, 50 ppm PEL, as AMMONIA

ISOPROPYL ALCOHOL 67630

EXPOSURE LIMIT:400 ppm TLV, PEL, 500 ppm STEL

ETHOXYDIGLYCOL 111900 GLYCERIN 56815

EXPOSURE LIMIT: AS A MIST 10 mg/m3 TLV, 15 mg/m3 TOTAL; 5 mg/m3 RESPIRABLE OSHA PEL

PHOSPHORIC ACID 7664382

EXPOSURE LIMIT: 1 mg/m3 TLV, PEL, 3 mg/m3 STEL

TRIDECETH-6 24938918 NONYL NONOXYNOL-10 9014931G **ETHANOLAMINE** 141435

EXPOSURE LIMIT:3 ppm TLV, PEL, 6 ppm STEL

OCTOXYNOL-1 2315675 NONOXYNOL-4 7311275 PEG-5 SOYAMINE 61791240G SULFATED CASTOR OIL 8002333 PEG-8 HYDROGENATED TALLOW AMINE 61791262G HEXYLENE GLYCOL 107415

EXPOSURE LIMIT:25 ppm CEILING ACGIH

OLETH-20 9004982 NONYL NONOXYNOL-49 9014931A CETYL ALCOHOL 36653824 ALCOHOL DENAT. 64175

Figure E-16 An example of a Material Safety Data Sheet (MSDS) hair lightener lotions (page 1).

EXPOSURE LIMIT: 1000 ppm TLV, PEL (ETHYL ALCOHOL) 112801 OLEIC ACID 151213 SODIUM LAURYL SULFATE 68140987 ETHYL HYDROXYMETHYL OLEYL OXAZOLINE 9035852 PPG-50 CETYL ETHER 977159424 COCETH-7 CARBOXYLIC ACID 977080811 STEARETH-21 9004982 OLETH-20 977159208 PEG-15 COCOPOLYAMINE 64365237 DIMETHICONE COPOLYOL 33939649G SODIUM LAURETH-13 CARBOXYLATE 33939649 SODIUM LAURETH-11 CARBOXYLATE 6144281 DILINOLEIC ACID 98000085 C12-15 PARETH-3

Section III - Physical/Chemical Characteristics

Specific Gravity (H<sub>2</sub>O = 1):0.9-1.1

Solubility in Water:

Fairly miscible (thickens

with water).

pH: Appearance and Odor: N/A

Fragranced, pourable emulsions. Ammoniacal

odor.



Section IV - Fire and Explosion

**Hazard Data** Flashpoint:

75 - 104

Unit:

Fahrenheit

Type:For products containing

alcohol.

Method:

closed cup

Fire Fighting Procedures:

Extinguish fires with water, ABC all-purpose or C02 extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed

Unusual Fire and Explosion Hazards:

None.

Physical Hazards

Products containing alcohol are usually flammable or combustible liquids.

Section V - Reactivity Data

Stability:

Conditions to Avoid:

Heat and sunlight.

Incompatibility (Materials ot Avoid): Hazardous Decomposition or

Do not use metallic bowls or stirrers.

None.

ByProducts:

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established. 1. Effects of Acute Accidental Exposure

Eye Contact:

CAUTION. Eye irritants. When the lightener lotion is mixed with hydrogen peroxide, the mixture may cause severe irritation and possible permanent eye injury.

Skin Contact:

Irritant. May induce a skin reaction in certain individuals. Ammonia vapor may cause respiratory tract irritation.

Inhalation: Ingestion:

Moderately toxic.

Figure E-17 An example of a Material Safety Data Sheet (MSDS) hair lightener lotions (page 2). (Reprinted with permission of Clairol Inc.)



2. Effects of Chronic Exposure

For purposes of chronic exposure under the OSHA Hazard Communication Standard, this is an untested mixture These products have been used extensively by consumers and Worldwide Beauty Care is not aware of any significant adverse effects. Release of ammonia vapors may result in irritation of the mucous membranes of the respiratory tract. Target Organs: These products contain ingredients which have been shown to affect tissues or organs when fed at high levels to animals. Exposure from professional uses of these products is well below the exposure levels used in animal studies. Target organs identified in animal studies are as follows: Glycerin: Kidney Liver; Isopropyl Alcohol: CNS; SD Alcohol 40: Liver, Eye, CNS, Reproductive; Propylene Glycol: CNS

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: No Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products.

# 6. Emergency and First Aid Procedures

Eye Contact: Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Go

medical attention IMMEDIATELY.

Skin Contact: If spilled, wash skin immediately with soap and water (do not use solvents). Change into

clean clothing. If skin reaction develops, contact dermatologist.

Inhalation: Remove person to fresh air. Increase ventilation.

Ingestion: Rinse out mouth with water and administer large amounts of milk. Contact Poison Contro

Center.

# Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA (4 CFR 261.21(1) ). Additionally disposal should be in accordance with all applicable Local State and Federal

Precautions to be Taken in Handling and Storage:

Do not store any lightener lotion after it has been mixed with developer and bleach powder. Decomposition of hydrogen peroxide may occur with increase in pressure and possible container rupture.

# Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin irritation or sensitization.

Eye Protection:

Avoid contact with eyes. Use protective eyewear, if splashing is possible.

Other Types of Protection:

Not applicable.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid all skin,eye,and clothing contact with products. In case of contact, rinse thoroughly with water. Promptly clean up all spills.

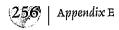
Section IX - Transportation Information

**DOT Class:**Consumer Commodity ORM-D

IMDG: Ethanol Solutions 3.3 UN1170, PGIII (75-104F) Limited Quantity

IATA/ICAO:Consumer Commodity Class: 9, ID 800 Packing Instructions 910

Figure E-18 An example of a Material Safety Data Sheet (MSDS) hair lightener lotions (page 3).



# MSDS:00007-1

Date Approved:
Worldwide Beauty Care
(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)
Bristol-Myers Squibb Company

One Blachley Road Stamford, CT 06922

Emergency Telephone Number: Transportation Emergency:
(203) 357-5678 Call Chemtrec 1-800-424-9300
This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

### Section 1 - Categorization

Product Category: Shampoos Pertinent Text: Viscous col

Viscous colored liquids or emulsions containing surfactants to cleanse the hair.
Texture & TonesMoisturizing Shampoo, Complements Maintenance Shampoo, Condition
3-In-1 Shampoos, Daily Defense Shampoos, Shimmer Lights Shampoo **Product Names:** 

Section II - Ingredients Identity/Exposure Limits

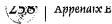
Shampoos generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

carcinogens).	CACNIII
CTFA Name	CAS Number 56815
GLYCERIN CONTROL OF A STANLAR O	20812
EXPOSURE LIMIT:AS A MIST $10~\text{mg/m}3~\text{TLV}$ , $15~\text{mg/m}3~\text{TOTAL}$ : $5~\text{mg/m}3~\text{RESPIRABLE OSHA PEL}$	
SALICYLIC ACID	69727
SODIUM CHLORIDE	7647145
COCAMIDE DEA	61791319
LAURAMIDE DEA	120401
SODIUM CITRATE	68042
ALCOHOL DENAT.	64175
EXPOSURE LIMIT:1000 PPM TLV, PEL (ETHYL ALCOHOL)	
DISODIUM COCOAMPHODIACETATE	68650395
SODIUM LAURYL SULFATE	151213
AMMONIUM LAURYL SULFATE	2235543
DISODIUM COCAMIDO MIPA-SULFOSUCCINATE	68515651
DISODIUM COCOAMPHODIACETATE	68650395
GLYCOL STEARATE	111604
SODIUM LAUROYL SARCOSINATE	137166
COCAMIDOPROPYL BETAINE	61789400
SODIUM C14-16 OLEFIN SULFONATE	68439576
LAURAMIDE DEA	120401
SODIUM LAURETH SULFATE	1335724
PEG-120 METHYL GLUCOSE DIOLEATE	86893198
TEA-LAURYL SULFATE	139968
PEG-15 COCOPOLYAMINE	977159208
COCAMIDE MEA	68140001
SODIUM LAURYL SULFATE	151213
FRAGRANCE	99999999
PROPYLENE GLYCOL	57556
LINOLEAMIDOPROPYL PG-DIMONIUM CHLORIDE PHOSPHATE	977162530
FRAGRANCE	999999999
SODIUM LAURETH SULFATE	1335724
SODIUM LAURYL SULFATE	151213

Figure E-19 An example of a Material Safety Data Sheet (MSDS) for shampoos (page 1).

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	SODIUM LAURE					133572	_
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	SODIUM TRIDEC	ETH SUL	FATE			2544678	30
	COCAMIDOPROF	YL BETA	AINE			6178940	
	PEG-80 SORBITA	N LAURA	ATE			977090	
	SODIUM LAURE					1335724	
	FRAGRANCE						•
	COCAMIDOPROF	WI DET	. Tarr			9999999	
						6178940	•
	SODIUM LAURE					133572	1
	SODIUM LAURY	L SULFA	TE			151213	
	FRAGRANCE					9999999	999
	SODIUM LAURO	YL SARC	OSINATE			137166	
	FRAGRANCE					9999999	999
,	<b>~</b>						
	B						
- 1	Section III - Phys	ical/Chei	mical Char	acteristics			
	Specific Gravity				pH:		4 - 7
•	Solubility in Wate	er:	Highly mi:	scible.	Appearance and (	Odor:	Fragranced liquids or
							pourable emulsions.
	₩.				••		
	₹4						
;	 Section IV - Fire :	and Expl	osion				
	· · Section IV - Fire : Hazard Data	and Expl	osi <del>o</del> n			·	
	 Section IV - Fire :	and Expl >200 <sup>0</sup>	osion	Unit:	Fahrenheit		pourable emulsions.
;   	Section IV - Fire a Hazard Data Flashpoint:	>2000		Unit: Method:			
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Figure E-20 An example of a Material Safety Data Sheet (MSDS) for shampoos (page 2). (Reprinted with permission of Clairol Inc.)



2. Effects of Chronic Exposure

2. Effects of Chronic Exposure
National Toxicology Program studies on diethanolamine itself and fatty acid condensates containing free
diethanolamine (DEA) (lauramide and cocamide diethanolamines) indicated an increased incidence of kidney
and/or liver tumors in mice dermally exposed for their lifetime. The significance of these findings and their
potential relevance to humans are not clear and further studies are in progress. Diethanolamine or its
condensates did not induce tumor in rats. In the interim, the US CIR, which had previously considered these
materials as "safe as used", has expressed reservation over NTP's conclusions and saw no need to revise its
conclusion until several outstanding questions on the NTP methodology are answered. For purposes of chronic
exposure under the OSHA Hazard Communication Standard, this is an untested mixture. These products have
been used extensively by consumers and Worldwide Beauty Care is not aware of any significant adverse effects.
Target Organs: These products contain ingredients which have been shown to affect tissues or organs when fed
at high levels of exposure in animal studies not encountered in normal use. Target Organs Identified in animal at high levels of exposure in animal studies not encountered in normal use. Target Organs Identified in animal studies are as follows: Alcohol Denat.: Liver, eye, CNS, reproductive. Glycerin: Kidney, liver. Propylene Glycol: CNS.

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: No Ingestion: Yes Skin: Yes

Pre-existing dermatitis would likely be made worse by exposure to these products.

6. Emergency and First Aid Procedures

Eye Contact: Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Get

medical attention IMMEDIATELY.

If spilled, wash skin immediately with soap and water (do not use solvents). Change into **Skin Contact:** 

clean clothing. If skin reaction develops contact dermatologist.

Remove person to fresh air. Increase ventilation. Inhalation:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control Ingestion:

Center.

Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Contain spill and promptly clean up. Flush with water and wipe with towel or rinse to drain. Floor can be slippery when wet.

Waste Disposal Method:

Products covered by this MSDS are considered non-hazardous waste according to RCRA. Disposable should be in accordance with all applicable Local, State and Federal Regulations.

Precautions to be Taken in Handling and Storage:

Store products in even normal temperatures. Keep containers tightly closed.

Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin reaction.

Eve Protection:

Avoid contact with eyes. Use protective eyewear, if splashing is possible. Other Types of Protection:

Not applicable.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid eye,clothing,and prolonged skin contact with products. In case of contact rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation

Information

DOT Class:Not regulated.

IMDG:Not regulated.

IATA/ICAO: Not regulated.

Figuré E-21 An example of a Material Safety Data Sheet (MSDS) for shampoos (page 3).

#### MSDS:00008

Date Approved:

Worldwide Beauty Care

(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)

Bristol-Myers Squibb Company

One Blachley Road Stamford, CT 06922 Emergency Telephone Number: (203) 357-5678

Transportation Emergency: Call Chemtrec 1-800-424-9300 This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication

Standard, 29 CFR 1910.1200.

Section I - Categorization

Product Category: Conditioners
Pertinent Text: Fragranced e Fragranced emulsions designed to enhance the appearance and feel of hair, increase hair

body or suppleness, facilitate styling, improve gloss or sheen and improve the texture of

**Product Names:** 

Nair.

Aussie Conditioners, Color Hold Conditioner, Condition 3-In-1 Detangler & Beauty Pack,
Daily Defense Conditioners, Frizz Control Taming Conditioner, Herbal Essences
Conditioners, Jazzing Hair Color Shade 10, L'Image Conditioner, Loving Care Conditioner,
Herbal Essences Hair Color After-Treatment, Miss Clairol Revitalizing Treatment, Motif
Conditioner, Natural Instincts Treatment & Conditioner, Nice 'N Easy Conditioner,
Revitalique Conditioner, Shimmer Lights Conditioner, Silk & Silver After Rinse Conditioner,
Summer Blonde After Sun Conditioner, Textures & Tones 1 Minute Reconstructive
Conditioner, Litteres & Littingte Blonde, Conditioner, Vitage 1 Textures A Lethel Conditioner, Ultress & Ultimate Blonde Conditioner, Vitapointe Hair Treatment, Herbal Essence Conditioners, Renewal Conditioners, Aussle 3 Minute Miracle, Color ProTec

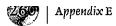
Conditioner, Infusium 23 Pro-Vitamin Hair Treatment

Section II - Ingredients Identity/Exposure Limits

Conditioners generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CTFA Name	CAS Number
PROPYLENE GLYCOL	57556
ISOPROPYL ALCOHOL	67630
EXPOSURE LIMIT:400 ppm TLV, PEL, 500 ppm STEL	
ETHOXYDIGLYCOL	111900
GLYCERIN	56815
EXPOSURE LIMIT:AS A MIST 10 mg/m3 TLV, 15 mg/m3 TOTAL: 5 mg/m3 RESPIRABLE OSHA PEL	
STEARALKONIUM CHLORIDE	122190
HYDROLYZED COLLAGEN	92113310
PVP	9003398
CETEARYL ALCOHOL	67762270
ACETAMIDE MEA	142267
CETYL ALCOHOL	36653824
HYDROXYETHYLCELLULOSE	9004620
POLYSORBATE 20	9005645
HEXYLENE GLYCOL	107415
EXPOSURE LIMIT:25 ppm CEILING ACGIH	
SORBITOL	50704
CETYL ALCOHOL	36653824
MINERAL OIL	8012951
EXPOSURE LIMIT:5 mg/m3 TLV, PEL AS AN OIL MIST	•
CETYL ESTERS	8002231
CITRIC ACID	77929

Figure E-22 An example of a Material Safety Data Sheet (MSDS) for conditioners (page 1).



POLYQUATERNIUM-10	53568664
STEARYL ALCOHOL	112925
DICETYLDIMONIUM CHLORIDE	1812539
PEG-150 DISTEARATE	9005087
EXPOSURE LIMIT:10 mg/m3 TLV	
PEG-100 STEARATE	90044993G
GLYCERYL STEARATE	31566311
EXPOSURE LIMIT:10 mg/m3 TLV	
HYDROLYZED COLLAGEN	92113310
PEG-40 STEARATE	9004993G
EXPOSURE LIMIT:10 mg/m3 TLV	
CETEARYL ALCOHOL	67762270
POLYQUATERNIUM-10	53568664
GLYCOL STEARATE	111604
POLYQUATERNIUM-6	26062793
HYDROLYZED COLLAGEN	92113310
AMODIMETHICONE	977091647
HYDROXYETHYLCELLULOSE	9004620
POLYQUATERNIUM-4	977086762
CETRIMONIUM CHLORIDE	112027
C12-15 ALKYL BENZOATE	68411278
TRIBEHENIN	18641571
QUATERNIUM-18	61789808
MYRISTYL MYRISTATE	3234853
CETEARYL ALCOHOL	67762270
BEHENTRIMONIUM METHOSULFATE	81646131
CETETH-2	5274613
DIMETHICONE	9006659
HYDROLYZED COLLAGEN	92113310
CETEARYL ALCOHOL	67762270
DISODIUM WHEATGERMAMPHODIACETATE	977169304
2,2,4-TRIMETHYL-1,3-PENTANEDIOL	144194
LINOLEAMIDOPROPYL DIMETHYLAMINE DIMER DILINOLEATE	125804106
PEG-20 ALMOND GLYCERIDES	124046500
CYCLOMETHICONE	69430246
QUATERNIUM-18	61789808
TRIMETHYLSILYLAMODIMETHICONE	977088826
CYCLOPENTASILOXANE	541026
CYCLOMETHICONE	69430246
DIMETHICONE	9006659
DICETYLDIMONIUM CHLORIDE	1812539
BEHENTRIMONIUM CHLORIDE	17301530
PHENYL TRIMETHICONE	2116849
QUATERNIUM-84	977172261
AMODIMETHICONE	977091647
PVP	9003398
KAOLIN	1332587
DIMETHICONE COPOLYOL MEADOWFOAMATE	157479511
PEG-12 DISTEARATE	977055074
SODIUM COCOAMPHOPROPIONATE	68988636
STEARETH-21	977080811
CETEARETH-20	68439496

Figure E-23 An example of a Material Safety Data Sheet (MSDS) for conditioners (page 2). (Reprinted with permission of Clairol Inc.)

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Section III - Physical/Chemical Characteristics

Specific Gravity (H2O = 1):0.8-1.15

:Hq

N/A

Solubility in Water:

Poor. Dispersible in water. Appearance and Odor:

Mild fragranced liquids cremes pourable

emulsions.

Section IV - Fire and Explosion

**Hazard Data** 

Flashpoint: N/A

Unit: Method: Not applicable.

Type: Not applicable.

Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards:

**Physical Hazards** 

None.

V.

Section V - Reactivity Data

Stability: Conditions to Avoid:

Stable. None.

Incompatibility (Materials of Avoid):

Not applicable.

Hazardous Decomposition or

None.

ByProducts:

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established.

1. Effects of Acute Accidental Exposure

Eye Contact: Skin Contact: Potential eye irritant. Non-irritating. Not applicable.

Inhalation: Ingestion:

Practically non toxic.

2. Effects of Chronic Exposure

For purposes of chronic exposure
For purposes of chronic exposure under the OSHA Hazard Communication Standard, this is an untested mixture.
These products have been used extensively by consumers and Worldwide Beauty Care is not aware of any significant adverse effects. Target Organs: These products contain ingredients which have been shown to affect tissues or organs when fed at high levels of exposure in animal studies not encountered in normal use. Target Organs identified in animal studies are as follows: Glycerin: Kidney, Liver; Propylene Glycol: CNS; Isopropyl Alcohol: CNS.

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: No Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products.

6. Emergency and First Aid Procedures

Remove contact lenses if used. Flush immediately with plenty of water for 15 minutes. Get medical attention IMMEDIATELY. Eye Contact:

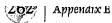
If spilled, wash skin immediately with soap and water (do not use solvents). Change into clean clothing. If allergic reaction develops, contact dermatologist. **Skin Contact:** 

Inhalation: Remove person to fresh air. Increase ventilation.

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control Ingestion:

Center.

Figure E-24 An example of a Material Safety Data Sheet (MSDS) for conditioners (page 3).



Section VII - Precautions for Safe Handling and Use
Steps to be taken in Case Material is released or Spilled:
Contain spill and promptly cleanup. Flush with copious amounts of water until floor is not slippery.
Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA. Additionally, disposal should be in accordance with all applicable Local, State and Federal regulations.

Precautions to be Taken in Handling and Storage:

None.

Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin reaction.

Eye Protection:
Avoid contact with eyes. Use protective eyewear,if splashing is possible.
Other Types of Protection:
Not applicable.
Respiratory Protection:
Avoid inhalation.
Work Hypelonia Breatings

Work Hyglenic Practices:

Always follow good hygienic work practices. Avoid eye,clothing,and prolonged skin contact with products. In case of contact,rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation Information
DOT Class:Not regulated.

IMDG:Not regulated.

IATA/ICAO: Not regulated.

Figure E-25 An example of a Material Safety Data Sheet (MSDS) for conditioners (page 4). (Reprinted with permission of Clairol Inc.)

#### MSDS:00010

Date Approved: Worldwide Beauty Care

(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)

Bristol-Myers Squibb Company One Blachley Road Stamford, CT 06922

Emergency Telephone Number: Transportation Emergency:
(203) 357-5678 Call Chemtrec 1-800-424-9300
This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Section I - Categorization

Product Category:
Pertinent Text:
Product Names:

Product Names:

Flammable Aerosol Hair Sprays/Dry Shampoos
A concentrated liquid in an alcoholic/water base containing resins, conditioners and fragrance delivered in a propellant system.
Condition 3-In-1 Hairsprays, Daily Defense Hairspray, PSSST, Sheer Mist Hairspray, Vitalis Hair Spray, Aussie Hairsprays, Color Protec Finishing Spray

Section II - Ingredients Identity/Exposure Limits
Flammable Aerosol Hair Sprays/Dry Shampoos generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CTFA Name	CAS Number
ALCOHOL DENAT.	64175
EXPOSURE LIMIT: 1000 ppm TLV, PEL (ETHYL ALCOHOL)	
ETHYL ESTER OF PVM/MA COPOLYMER	67724930
DIMETHYL ETHER	115106
PROPANE	74986
EXPOSURE LIMIT:1000 PPM PEL, ACGIH ASPHYXIANT	
ISOBUTANE	75285
PROPANE	74986
EXPOSURE LIMIT:1000 PPM PEL, ACGIH ASPHYXIANT	
ISOBUTANE	75285
HYDROFLUOROCARBON 152A	75376
ISOBUTANE	75285
OCTYLACRYLAMIDE/ACRYLATES COPOLYMER	977131411
DIMETHYL ETHER	115106
VA/CROTONATES/VINYL NEODECANOATE COPOLYMER	55353214
ALCOHOL DENAT.	64175
EXPOSURE LIMIT:1000 ppm TLV, PEL (ETHYL ALCOHOL)	
PHENYL TRIMETHICONE	2116849
ALUMINUM STARCH OCTENYLSUCCINATE	9087610
HYDROFLUOROCARBON 152A	75376
DIGLYCOL/CHDM/ISOPHTHALATES/SIP COPOLYMER	999000483
OCTYLACRYLAMIDE/ACRYLATES/BUTYLAMINOETHYL METHACRYLATE COPOLYMER	708010879
ACRYLATES COPOLYMER	25085692

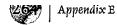
Section III - Physical/Chemical Characteristics

Specific Gravity (H<sub>2</sub>O = 1): Concentrate: 0.79-0.83 pH:

Solubility in Water: Slightly soluble. Appearance and Odor: Fragranced spray.

Figure E-26 An example of a Material Safety Data Sheet (MSDS) for aerosol hair sprays (page 1). (Reprinted with permission of Clairol Inc.)





Section IV - Fire and Explosion

**Hazard Data** 

Flashpoint: Concentrate: 51-71Unit: Fahrenheit

Type:For products containing

alcohol.

Method:

closed cup

Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards: Product will flash or sustain a flame if exposed to fire heat or ignition source at or below room temperature.

Physical Hazards

Flammable aerosol, Contents under pressure. Concentrate: Flammable liquid.

Section V - Reactivity Data

Stability:

Stable.

Conditions to Avoid:

Open flames; heat and ignition sources.

Incompatibility (Materials of Avoid): None.

Hazardous Decomposition or

May form toxic materials (carbon dioxide and carbon monoxide).

ByProducts:

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established.

1. Effects of Acute Accidental Exposure

Eye Contact:

Potential eve irritant.

Skin Contact:

Irritation unlikely. Contact with propellant may cause frostbite.

Inhalation:

Respiratory symptoms may occur due to inadequate ventilation. High concentration of

propellants may induce anesthesia or anoxia.

Ingestion:

Not likely to occur. Ingestion of 2 or more ounces of product containing high level of

alcohol may result in depresion and alcohol intoxication.

2. Effects of Chronic Exposure

For purposes of chronic exposure under the OSHA Hazard Communication Standard, these are untested mixtures. Aerosol hair spray formulations using a variety of resins and solvent-propellant systems have been tested for safety by Worldwide Beauty Care and industry-sponsored animal studies. There is no evidence in these studies that ingredients used in these products are harmful to general health or cause adverse effects on the respiratory system. Target Organs: Alcohol Denat.: Liver, CNS, Eye and Reproductive.

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: Yes Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products. Bronchitis may be aggravated by irritant vapors.

6. Emergency and First Aid Procedures

Eye Contact:

Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Get

medical attention IMMEDIATELY.

Skin Contact:

If spilled, wash skin immediately with soap and water (do not use solvents). Change into

clean clothing. If skin reaction develops contact dermatologist. Remove person to fresh air. Increase ventilation.

inhalation: Ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control

Center.

Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled: Avoid ignition sources. Material is flammable, Contain spill and promptly clean up. Flush with water, Floor can be

Figure E-27 An example of a Material Safety Data Sheet (MSDS) for aerosol hair sprays (page 2). (Reprinted with permission of Clairol Inc.)



slippery when wet.

Waste Disposal Method:

These products are considered hazardous according to RCRA. Disposal should be in accordance with all applicable Local, State and Federal Regulations.

Precautions to be Taken in Handling and Storage:

Products under pressure. Do not puncture or incinerate. Do not store at temperature above 120 F or use near fire

or flame. Keep out of reach of children.

Section VIII - Control Measures

Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

**Hand Protection:** 

Use impervious gloves to avoid possible skin reaction.

Eye Protection:

Avoid contact with eyes. Use protective eyewear,if splashing is possible.

Other Types of Protection:

Not applicable.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid eye, clothing, and prolonged skin contact with products. In case of contact, rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation

Information

**DOT Class:**Consumer

Commodity ORM-D

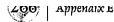
IMDG: Aerosols 2.1 UN 1950 Limited

Quantities

IATA/ICAO:Consumer

Commodity Class: 9, ID 8000 Packing Instructions 910

Figure E-28 An example of a Material Safety Data Sheet (MSDS) for aerosol hair sprays (page 3). (Reprinted with permission of Clairol Inc.)



#### MSDS:00011

Date Approved: Worldwide Beauty Care

(Clairol, Inc.; Duart Labs; Redmond Products, Inc.)

Bristol-Myers Squibb Company One Blachley Road

Stamford, CT 06922

Emergency Telephone Number: (203) 357-5678

Transportation Emergency: Call Chemtrec 1-800-424-9300

This sheet has been prepared in accordance with the Requirements of the OSHA Hazard Communication Standard, 29 CFR 1910,1200.

Section I - Categorization

Product Category: Non-Aerosol (Pump) Hair Sprays Pertinent Text:

**Product Names:** 

Flammable alcoholic fragranced liquids.
Clairmist, Color Protec Spritz, Condition 3-In-1 Hairsprays, Condition 3-In-1 Sculpting Spritz, Herbal Essences Hairspray, Herbal Essences Spritz, Infusium Hairspray, Daily Defense Hairspray, Aussie Mega Styling Spray, Vitalis Non-Aerosol Hairspray, Final Net Hairspray,

Aussie Sprunch Spray

Section II - Ingredients Identity/Exposure Limits
Non-Aerosol (Pump) Hair Sprays generally contain the following hazardous ingredients (1% concentration or greater; 0.1% for carcinogens):

CTFA Name	CAS Number
PROPYLENE GLYCOL	57556
ISOPROPYL ALCOHOL	67630
EXPOSURE LIMIT:400 PPM TLV, PEL 500 PPM STEL	
ALCOHOL DENAT,	64175
EXPOSURE LIMIT: 1000 PPM TLV, PEL (ETHYL ALCOHOL)	
ETHYL ESTER OF PVM/MA COPOLYMER	67724930
AMINOMETHYL PROPANOL	124685
OCTYLACRYLAMIDE/ACRYLATES COPOLYMER	977131411
ACRYLATES/ACRYLAMIDE COPOLYMER	26062566
VA/CROTONATES/VINYL NEODECANOATE COPOLYMER	55353214
ALCOHOL DENAT.	64175
EXPOSURE LIMIT: 1000 PPM TLV, PEL (ETHYL ALCOHOL)	
DIMETHICONE COPOLYOL	64365237
ALCOHOL DENAT.	64175
EXPOSURE LIMIT:1000 PPM TLV, PEL (ETHYL ALCOHOL)	
DIGLYCOL/CHDM/ISOPHTHALATES/SIP COPOLYMER	999000483
OCTYLACRYLAMIDE/ACRYLATES/BUTYLAMINOETHYL METHACRYLATE	70901070
COPOLYMER	70801079
PVP/VA COPOLYMER	25086899
ALCOHOL DENAT.	64175
EXPOSURE LIMIT:1000 PPM TLV, PEL (ETHYL ALCOHOL)	

Section III - Physical/Chemical Characteristics

Specific Gravity ( $H_2O = 1$ ): 0.80-0.84 Solubility in Water:

ACRYLATES COPOLYMER

Slightly soluble.

N/A

25085692

Appearance and Odor:

Clear alcoholic liquid. Mildly fragranced.

Figure E-29 An example of a Material Safety Data Sheet (MSDS) for non-aerosol pump hair sprays (page 1). (Reprinted with permission of Clairol Inc.)

M

Section IV - Fire and Explosion

**Hazard Data** 

Flashpoint: 52-65

Unit:

Fahrenheit

Type:For products containing alcohol.

Method:

closed cup

Fire Fighting Procedures:

Extinguish fires with ABC all-purpose extinguisher. The type of extinguisher used should be in conformance with local fire regulations. Fire fighters should use self contained breathing apparatus in enclosed areas.

Unusual Fire and Explosion Hazards:

Product will flash or sustain a flame if exposed to fire, heat or ignition source at or below room temperature.

Physical Hazards Flammable liquids.

Re

Section V - Reactivity Data

Stability: Conditions to Avoid: Stable.

Incompatibility (Materials of Avoid):

Open flames; heat and ignition sources.

Hazardous Decomposition or

May form toxic materials (carbon dioxide and carbon monoxide).

ByProducts:

No

Section VI- Health Hazards and Hazard Data The TLV of the mixture has not been established.

1. Effects of Acute Accidental Exposure

Eye Contact: Skin Contact: Eye irritant. Non-irritating.

Inhalation:

Respiratory symptoms may occur due to inadequate ventilation.

Ingestion:

Moderately toxic. May cause strong burning sensation. Ingestion of 2 or more ounces of

product containing high level of alcohol may result in depresion and alcohol intoxication.

2. Effects of Chronic Exposure

For purposes of chronic exposure under the OSHA Hazard Communication Standard, this is an untested mixture. These products have been used extensively by consumers and Worldwide Beauty Care is not aware of any significant adverse effects. Target Organs: These products contain an ingredient which has been shown to affect tissues or organs under high levels of exposure in animal studies not encountered in normal use. Alcohol: Liver, CNS, eye and reproductive.

3. Carcinogen Status: OSHA: No NTP: No IARC: No

4. Route of Entry:

Inhalation: Yes Ingestion: Yes Skin: Yes

5. Pre-existing dermatitis would likely be made worse by exposure to these products. Bronchitis may be aggravated by irritant vapors.

6. Emergency and First Aid Procedures

Eye Contact:

Remove contact lenses, if used. Flush immediately with plenty of water for 15 minutes. Get

medical attention IMMEDIATELY.

Skin Contact:

If spilled, wash skin immediately with soap and water (do not use solvents). Change into

clean clothing. If skin reaction develops, contact dermatologist.

Inhalation:

Remove person to fresh air. Increase ventilation.

Ingestion:

Rinse out mouth with water and administer large amounts of milk. Contact Poison Control

Center.

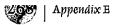
•

Section VII - Precautions for Safe Handling and Use

Steps to be taken in Case Material is released or Spilled:

Avoid ignition sources. Material is flammable. Contain spill and promptly clean up. Flush with water. Floor can be slippery when wet.

**Figure E-30** An example of a Material Safety Data Sheet (MSDS) for non-aerosol pump hair sprays (page 2). (Reprinted with permission of Clairol Inc.)



Waste Disposal Method:

Products covered by this MSDS, in their original form, are considered non-hazardous waste according to RCRA (40 CFR 261.21(a)(1)). Additionally, disposal should be in accordance with all applicable Local, State and Federal regulations.

Precautions to be Taken in Handling and Storage:

FLAMMABLE! Keep away from fire and flames. Keep containers closed. Follow flammable liquid storage requirements. Keep away from radiators and heat. Store in a room with even, normal temperatures, away from heating elements.

On Section VIII - Control Measures Ventilation:

Exhaust system ventilation should be adequate to avoid buildup of vapors.

Hand Protection:

Use impervious gloves to avoid possible skin reaction.

Eve Protection:

Avoid contact with eyes. Use protective eyewear, if splashing is possible.

Other Types of Protection:

Not applicable.

Respiratory Protection:

Avoid inhalation.

Work Hygienic Practices:

Always follow good hygienic work practices. Avoid eye, clothing, and prolonged skin contact with products. In case of contact, rinse thoroughly with water. Promptly clean up all spills.

Section IX - Transportation Information DOT Class:Over 16 oz.

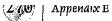
:Over 16 oz.
containers: Ethyl
Alcohol Solutions
3, UN1170, PG II,
16 oz. containers
and under:
Consumer
Commodity
ORM-D

IMDG:Over 16 oz. containers: Ethyl Alcohol Solutions 3.2 UN1170, PGI!, Under 16 oz containers: Ethyl Alcohol Solutions, 3.2 UN1170, PGII, Limited Quantities IATA/ICAO:Over 16 oz.
containers: Ethyl
Alcohol Solutions,
3, UN1170, PGII,
Packing
Instructions 305,
Under 16 oz.
containers:
Consumer
Commodity,
Class 9, ID8000,
Packing
Instructions 910

**Figure E-31** An example of a Material Safety Data Sheet (MSDS) for non-aerosol pump hair sprays (page 3). (Reprinted with permission of Clairol Inc.)

Kenra, LLC 6501 Julian Ave., Indianapolis, IN 46219 **Product Name** VOLUME SPRAY (80% VOC) **Product Description** Finishing Aid MSDS Number: 16100 **Revision Date:** 01-Nov-00 Section 2 - Hazardous Ingredients / Identity Information **Hazardous Components CAS Number** TLV or PEL Other Limits Percentage Ethanol 64-17-5 N/A N/A N/A Aminomethyl Propanol 124-68-5 N/A N/A N/A Isobutane 68476-85-7 N/A N/A N/A Ethane, t, 1-Difluoro-75-37-6 N/A N/A N/A Section 3 - Physical/Chemical Characteristics @760mmHg 173-F **Boiling Point** Specific Gravity H20 = 1 @70-F = .806-820 Vapor Pressure (mm Hg.) NΑ **Melting Point** N/A Vapor Density (AIR = 1) >1 N/A Evaporation Point(Butyl Acetate = 1) Solubility in Water Soluble Appearance and Odor Clear light straw liquid / characteristic odor Section 4 - Fire and Expolsion Hazard LEL Flash Point (Method Used) Flammable Limits UEL N/A -30 - F N/A N/A Extinguishing Media Carbon Dioxide, Foam, Dry Chemical, Water Special Fire Fighting Procedures Keep temperature of containers below 120-F by spraying with water until the fire has been extinguish Unusual Fire and Explosion Hazards Containers may rupture and release flammable liquids and/or gases if exposed to heat or fire. Section 5 - Reactvity Data Stability Unstable Conditions to Avoid Stable  $\mathbf{Z}$ Do not store containers in direct sunlight or where conditions will heat them above 120-F. Incompatibilty (Materials to Avoid) Do not mix with strong oxidizers. **Hazardous Decomposition or Byproducts** Normal products of combustion. Hazardous May Occur Conditions to Avoid **Polymerization** May Not Occur N/A

Figure E-32 An example of a Material Safety Data Sheet (MSDS) for non-aerosol pump hair sprays (page 1). (Reprinted with permission of Kenra LLC.)



	Tidzaid Data		
Inhalation ?	Skin ?	Ingestion ?	
hronic)		<b>∑</b>	
•	individuals.		
NTP	IARC	OSHA	
A wadtawared by Expost	ire		
cedures			
	ritation occurs, consult	a physician.	
ection 7 - Precautions for	Safe Handling and Us		
			een released.
Section 8 - Contr	ol Measures		
. ,	, ,	above the permissable limit.	
I	Eye		
• .	Chemical goggles	•	
Equipment ecessary to prevent skin o	ontact.	,	
	Inhalation ?  Inhalation ?  Inhronic)  Inse dermatitis in sensitive  Inhronic NTP  Inh	hronic) use dermatitis in sensitive individuals.  NTP	Inhalation?  Skin?  Ingestion?  Infonic)  use dermatitis in sensitive individuals.  NTP  IARC  OSHA  OSHA  OSHA  Aggravated by Exposure  cedures  rge amounts of water. If irritation occurs, consult a physician.  rection 7 - Precautions for Safe Handling and Use  aterial is Released or Spilled  in open containers, outdoors, away from any source of ignition, until all pressure has be disposal Facilities and accordance with Ferderal, State and Local reg.  andling and Storage  Section 8 - Control Measures  iffy Type)  nic vapor respirator when vapors are generated above the permissable limit.  cal Exhaust, Mechanical, Special, Other)  mmended P.E.L.  Eye  Chemical goggles  Equipment

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**Figure E-32** An example of a Material Safety Data Sheet (MSDS) for non-aerosol pump hair sprays (page 2). (Reprinted with permission of Kenra LLC.)