

Lemon Yellow

01301-1009  
KIT

01301-4062

MATERIAL SAFETY DATA SHEET

Rupert, Gibbon & Spider  
P.O. BOX 425  
HEALDSBURG, CA. 95448

ISSUE DATE: 10/01/98

1053

I - PRODUCT IDENTIFICATION

PRODUCT NAME ..... YELLOW MX-8G  
PRODUCT CODE NUMBER .....  
CHEMICAL FAMILY ..... AZO  
COLOR INDEX NAME .....  
T.S.C.A. STATUS ..... IN COMPLIANCE

II - HAZARDOUS INGREDIENTS

HAZARDOUS COMPONENTS: NON HAZARDOUS  
CURRENT TLV'S: NOT ESTABLISHED

III - PHYSICAL DATA

APPEARANCE ..... POWDER  
COLOR ..... YELLOW  
ODOR ..... NONE  
SOLUBILITY IN WATER ..... SOLUABLE  
pH ..... NO DATA

IV - FIRE AND EXPLOSION DATA

FLASH POINT ..... Not Applicable  
EXTINGUISHING MEDIA ..... Water, Dry Chemical, CO2, Foam  
SPECIAL FIRE FIGHTING PROCEDURES/UNUSUAL  
FIRE OR EXPLOSION HAZARDS: Firefighters should be equipped with protective clothing & self-contained breathing apparatus to protect against potentially toxic & irritating fumes. In case of fire or explosion, keep unnecessary people away. Isolate hazard area & any entry. Stay upwind, out of low areas, and ventilate closed spaces before entering

PRODUCT: YELLOW MX-8G

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**V - HEALTH EFFECTS DATA**

ANIMAL TOXICITY ORAL - LD50 (INGESTION) .....MAY CAUSE IRRITATION  
 FISH, LC50 .....NO DATA  
 EYE EFFECTS.....MAY CAUSE IRRITATION  
 SKIN EFFECTS .....MAY CAUSE IRRITATION  
 HUMAN EFFECTS OF OVEREXPOSURE .....MAY CAUSE RESPIRATORY IRRITATION TO  
 SOME PEOPLE

**VI - EMERGENCY AND FIRST AID PROCEDURES**

EYE CONTACT .....Wash immediately with large amounts of water, occasionally lifting the upper and lower lids until no evidence of product remain. Get medical attention. Do not wear contact lenses while handling.

SKIN CONTACT .....Wash immediately with soap and plenty of water. If a temporary skin reaction occurs, it should be treated as allergic contact dermatitis. Launder contaminated clothing before reuse.

INGESTION .....If swallowed, do not induce vomiting. Qualified medical personnel should remove the product by gastric lavage and catharsis. Get medical attention.

INHALATION .....If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. Call a physician.

**VII - EMPLOYEE PROTECTION RECOMMENDATIONS**

EYE PROTECTION .....Employees should wear protective eye-goggles.

SKIN PROTECTION .....This material may be absorbed via the dermal route if prolonged or widespread skin contact occurs. Employees should avoid skin contact by wearing protective clothing. Long sleeve shirts, pants, rubber gloves, and boots are recommended. Additional protection such as impervious suits are recommended when the potential for dermal contact is significant. Employees should wash their hands and face before eating and drinking and shower thoroughly before leaving work.

RESPIRATORY PROTECTION .....NIOSH approved dust respirator.

VENTILATION .....Use local ventilation if dusting is a problem.

OTHER .....Emergency showers and eye wash stations should be available.

PRODUCT: YELLOW MX-8G

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**VIII - REACTIVITY DATA**

STABILITY .....STABLE  
POLYMERIZATION .....DOES NOT OCCUR  
INCOMPATIBILITY (MATERIALS TO AVOID) .....NONE  
HAZARDOUS DECOMPOSITION PRODUCTS .....BURNING MAY PRODUCE OXIDES OF CARBON  
& NITROGEN

**IX - SPILL OR LEAK PROCEDURES**

IN CASE MATERIAL IS RELEASED/SPILLED: Do not touch or walk through the spilled material: stop leak if you can do it without risk. Take up with sand or other non-combustible absorbent materials and place into containers for later disposal. Scrub spilled area with detergent, flush with copious amount of water.

WASTE DISPOSAL METHOD: Waste disposal should be in accordance with existing federal, state and local environmental regulations.

**X - SPECIAL PRECAUTIONS AND STORAGE DATA**

HANDLING AND STORING PRECAUTIONS: Store in dry place, away from excessive heat, in original or similar waterproof container. Reseal container immediately after use. Avoid unnecessary contact.

**XI - SHIPPING DATA**

PROPER SHIPPING NAME .....NON-HAZARDOUS  
D.O.T. HAZARD CLASSIFICATION .....Non-Regulated  
FRT. CLASS PACKAGE .....DYE MATERIALS

**XII - APPROVALS**

DATE PRINTED .....10/31/98  
DATE APPROVED.....08/01/98

**PRODUCT: YELLOW MX-8G****PAGE 3**

01302-4922

## MATERIAL SAFETY DATA SHEET

20692-02

Brd Golden Yellow  
1049

## ZENECA Inc.

Wilmington, Delaware 19897  
 Phone (24 hr.) Technical: (302) 886-3000  
 Medical: (800) 327-8633

Issue Date: 05/27/94

Rev.: G  
 CIDS: 54109

## SECTION 1 NAME &amp; HAZARD SUMMARY

Material name: PROCION® Yellow MX-3R

Hazard summary (as defined by OSHA Hazard Comm. Std., 29 CFR 1910.1200):

Physical hazards: None

Health hazards: Irritant (eye, skin, skin sensitizer), harmful pulmonary (lung) sensitizer

Read the entire MSDS for a more thorough evaluation of the hazards.

## SECTION 2 INGREDIENTS

OSHA PEL

Azo dichlorotriazine reactive dye	Not listed
Other nonhazardous ingredients	Not listed

Ingredients not precisely identified are proprietary or nonhazardous.  
 Values are not product specifications.

## SECTION 3 PHYSICAL DATA

Appearance and odor: Yellow odorless powder  
 Melting point: No data  
 Vapor pressure (mm Hg at 20°C): No data  
 Vapor density (air = 1): No data  
 Solubility in water: Soluble  
 pH: 7.0 at 10 g/l water  
 Specific gravity: No data  
 \* Volatile by volume: Negligible

## SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point: Not applicable  
 Autoignition temperature: No data  
 Flammable limits (STP): Not applicable

## Extinguishing media:

Water fog, alcohol foam, carbon dioxide, dry chemical, halogenated agents.

## Special fire fighting protective equipment:

Self-contained breathing apparatus with full facepiece and protective clothing.

## Unusual fire and explosion hazards:

This product may form explosive dust clouds in air..

(Continued) PROCION Yellow MX-3R

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**SECTION 5 REACTIVITY DATA**

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**Stability:**

Stable under normal conditions.

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**Incompatibility:**

Oxidizing agents.

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**Hazardous decomposition products:**

Combustion products: Carbon dioxide, carbon monoxide, nitrogen oxides, ammonia, sulfur oxides, halogen, halogen acids, possible trace amounts of carbonyl halide.

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**Hazardous polymerization:**

Will not occur.

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**SECTION 6 HEALTH HAZARD ASSESSMENT**

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**General:**

No toxicity information is available on this specific preparation; this health hazard assessment is based on information that is available on similar preparations.

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**Ingestion:**

The acute oral LD50 in rat is probably above 5,000 mg/kg. Relative to other materials, this material is classified as "practically nontoxic" by ingestion.

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**Eye contact:**

This material is likely to be slightly irritating to human eyes following contact.

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**Skin contact:**

This material will probably irritate human skin. Based upon animal testing, some individuals after repeated contact may develop a skin sensitivity to this product.

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**Skin absorption:**

This product will probably not be absorbed through human skin.

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**Inhalation:**

This dye has caused respiratory allergy/sensitization and care must therefore be taken to limit exposure of operators to dust, aerosol mist or droplets during handling. Cough, tightness in chest, and/or asthmatic wheezing may be signs of respiratory allergy/sensitization.

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**Other effects of overexposure:**

No other adverse clinical effects have been associated with exposures to this material.

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(Continued) PROCION Yellow MX-3R

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**SECTION 6 HEALTH HAZARD ASSESSMENT (continued)**

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**First aid procedures:**

**Skin:** Wash material off of the skin with plenty of soap and water. If redness, itching, or a burning sensation develops, get medical attention.

**Eyes:** Immediately flush with plenty of water for at least 15 minutes. If redness, itching, or a burning sensation develops, have eyes examined and treated by medical personnel.

**Ingestion:** Give 1 or 2 glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person.)

**Inhalation:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth-to-mouth. If breathing is labored, give oxygen. Consult medical personnel.

**Note to physician:** Persons with chronic pulmonary disease should receive a thorough medical evaluation before handling these dyestuff blends.

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**SECTION 7 SPILL OR LEAK PROCEDURES**

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**Steps to be taken in case material is released or spilled:**

Wear skin, eye, and respiratory protection during cleanup. Sweep up and recover or mix material with a moist absorbent and shovel into a chemical waste container. Wash residue from spill area with water and flush to a sewer serviced by a wastewater treatment facility. Use care to minimize the amount of colored material that reaches the sewer.

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**Disposal method:**

Discarded product is not a hazardous waste under RCRA, 40 CFR 261.

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**Container disposal:**

Empty container retains product residue. Observe all hazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue from container and puncture or otherwise destroy empty container before disposal.

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**SECTION 8 SPECIAL PROTECTION INFORMATION**

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**TLV® or suggested control value:**

No ACGIH TLV or OSHA PEL assigned. Minimize exposure in accordance with good hygiene practice.

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**Ventilation:**

Use ventilation adequate to maintain safe levels.

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**Respiratory protection:**

If needed, use MSHA-NIOSH approved respirator for dusts, mists and fumes whose TLV is greater than 0.05 mg/m<sup>3</sup>.

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**Protective clothing:**

Gloves, apron and arm covers to avoid skin contact (see Section 9).

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**Eye protection:**

Chemical tight goggles.

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**Other protective equipment:**

Eyewash station and safety shower in work area.

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(Continued) PROCION Yellow MX-3R

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**SECTION 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS**

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**Special precautions or other comments:**

Follow procedures specified in the National Fire Protection Association Codes and Standards for handling combustible dusts. Maintain good housekeeping to avoid dust buildup. Avoid skin contact; stains may be difficult to remove without injuring the skin. Prevent eye contact. Avoid breathing dusts. A sensitized individual should not be exposed to the product which caused the sensitization.

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**\*\*\*SECTION 10 REGULATORY INFORMATION**

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TSCA (Toxic Substances Control Act) Regulations, 40CFR 710:

All ingredients are on the TSCA Chemical Substance Inventory.

CERCLA and SARA Regulations (40 CFR 355, 370, and 372):

This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

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The information herein is given in good faith  
but no warranty, expressed or implied, is made.

Prepared/Reviewed: 11/03/86

\*\*\*This line or section contains revisions or new statements since  
the last issue date.

20692-09

01302-6132

## MATERIAL SAFETY DATA SHEET

Fuchsia

1011

## ZENECA Inc.

Wilmington, Delaware 19897  
 Phone (24 hr.) Technical: (302) 886-3000  
 Medical: (800) 327-8633

Issue Date: 05/27/94

Rev.: E  
 CIDS: 54408

SECTION 1 NAME & HAZARD SUMMARY

Material name:

PROCION® Red MX-8B

Hazard summary (as defined by OSHA Hazard Communication Standard,  
 29 CFR 1910.1200):

Physical hazards: None

Health hazards: Skin irritant, eye irritant, pulmonary (lung) sensitizer

Read the entire MSDS for a more thorough evaluation of the hazards.

SECTION 2 INGREDIENTS

Azo dichlorotriazine reactive dye  
 Other nonhazardous ingredients

OSHA PEL

Not listed  
 Not listed

Ingredients not precisely identified are proprietary or nonhazardous. Values are not product specifications.

SECTION 3 PHYSICAL DATA

Boiling point: Not applicable  
 Vapor pressure (mmHg at 20°C): No data  
 Vapor density (air = 1): No data  
 Solubility in water: 50 g/l  
 pH: No data  
 Specific gravity: About 1  
 % Volatile by volume: Negligible  
 Appearance and odor: Red odorless powder

SECTION 4 FIRE AND EXPLOSION HAZARD DATA

Flash point (and method): Not applicable  
 Autoignition temp.: No data  
 Flammable limits (STP): Not applicable

Extinguishing media:

Water fog, foam, carbon dioxide, dry chemical, halogenated agents.

Special fire fighting protective equipment:

Self-contained breathing apparatus with full facepiece and protective clothing.

Unusual fire and explosion hazards:

This product may form explosive dust clouds in air.



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## MATERIAL SAFETY DATA SHEET (continued)

PROCION Red MX-8B

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**SECTION 5 REACTIVITY DATA**

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**Stability:**

Stable under normal conditions.

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**Incompatibility (materials to avoid):**

Oxidizing agents.

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**Hazardous decomposition products:**

Combustion products: Carbon dioxide, carbon monoxide, nitrogen oxides, ammonia, sulfur oxides, halogen, halogen acids, possible trace amounts of carbonyl halide.

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**Hazardous polymerization:**

Will not occur.

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**SECTION 6 HEALTH HAZARD ASSESSMENT**

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**General:**

Limited toxicity data are available on this specific product; this health hazard assessment is based on the results of screening tests.

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**Ingestion:**The acute oral LD<sub>50</sub> in rat is above 5 g/kg. Relative to other materials, a single dose of this product is practically nontoxic by ingestion.

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**Eye contact:**

This material is slightly irritating in rabbit eye studies; a similar degree of irritation will probably occur after human eye contact.

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**Skin contact:**

This material is slightly irritating in rabbit dermal irritation studies. Irritation may develop following repeated and/or prolonged contact with human skin.

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**Skin absorption:**

This product is not likely to be absorbed through human skin.

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**Inhalation:**

Although the potential for respiratory sensitization is expected to be low from exposures to dusts generated from this dyestuff, some individuals have developed respiratory allergic reactions after repeated and/or prolonged exposures to high atmospheric concentrations of dust from some reactive dyes, of which Procion dyes are one type. Cough, tightness in chest, and/or asthmatic wheezing may be signs of respiratory allergy.

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**Other effects of overexposure:**

No other adverse clinical effects are known to be associated with exposures to this material.

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**First aid procedures:****Skin:** Wash material off the skin with plenty of soap and water. If redness, itching or a burning sensation develops, get medical attention.

---continued---

## MATERIAL SAFETY DATA SHEET (continued)

PROCION Red MX-8B

SECTION 6 HEALTH HAZARD ASSESSMENT (continued)

## First aid procedures (continued):

Eyes: Immediately flush with plenty of water for at least 15 minutes. If redness, itching or a burning sensation develops, have eyes examined and treated by medical personnel.

Ingestion: Give one or two glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel. (Never give anything by mouth to an unconscious person.)

Inhalation: Remove victim to fresh air. If cough or other respiratory symptoms develop, consult medical personnel.

SECTION 7 SPILL OR LEAK PROCEDURES

## Steps to be taken in case material is released or spilled:

Wear skin, eye and respiratory protection during cleanup. Sweep up and recover or mix material with moist absorbent and shovel into waste container. Wash down spill area with water and flush to a sewer serviced by a wastewater treatment facility. Use care to minimize the amount of dyestuff that reaches the sewer.

## Disposal method:

Discarded product is not a hazardous waste under RCRA, 40 CFR 261.

## Container disposal:

Empty container retains product residue. Observe all hazard precautions. Do not distribute, make available, furnish or reuse empty container except for storage and shipment of original product. Remove all product residue and puncture or otherwise destroy empty container before disposal.

SECTION 8 SPECIAL PROTECTION INFORMATION

## TLV® or suggested control value:

No ACGIH TLV or OSHA PEL assigned. Minimize exposure in accordance with good hygiene practice.

## Ventilation:

Use local exhaust to keep exposures to a minimum.

## Respiratory protection (specify type):

If needed, use MSHA-NIOSH approved respirator for dusts, mists and fumes whose TLV is greater than 0.05 mg/m<sup>3</sup>.

## Protective clothing:

Gloves, apron and arm covers to avoid skin contact (see Section 9).

## Eye protection:

Chemical tight goggles.

## Other protective equipment:

Eyewash station and safety shower in work area.

## MATERIAL SAFETY DATA SHEET (continued)

PROCION Red MX-8B

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**SECTION 9 SPECIAL PRECAUTIONS OR OTHER COMMENTS**

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## Precautions to be taken in handling or storing:

Follow procedures specified in the National Fire Protection Association Codes and Standards for handling explosive dusts. Maintain good housekeeping to avoid dust buildup. Avoid skin contact; stains may be difficult to remove without injuring the skin. Prevent eye contact. Minimize inhalation exposure to dusts. A sensitized individual should not be exposed to the product which caused the sensitization.

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**\*\*\*SECTION 10 REGULATORY INFORMATION**

---

## TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710:

All ingredients are on the TSCA Chemical Substance Inventory.

---

CERCLA and SARA Regulations (40 CFR 355, 370, and 372):

This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

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The information herein is given in good faith  
but no warranty, expressed or implied, is made.

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Prepared/Reviewed: 11/3/86

\*\*\*This line or section contains revisions or new statements since  
the last issue date.

(20692-12)

01302 - 5112

**MATERIAL SAFETY DATA SHEET**

**Rupert, Gibbon & Spider  
P.O. BOX 425  
HEALDSBURG, CA. 95448**

**ISSUE DATE: 07/01/98**

**I - PRODUCT IDENTIFICATION**

PRODUCT NAME ..... **TURQUOISE MX-G**  
PRODUCT CODE NUMBER .  
CHEMICAL FAMILY ..... **AZO DYESTUFFS**  
COLOR INDEX NAME .....  
T.S.C.A. STATUS ..... **IN COMPLIANCE**

**II - HAZARDOUS INGREDIENTS**

**HAZARDOUS COMPONENTS: NONE AS PER SARA TITLE III, SEC. #313: NOT LISTED**  
**CURRENT TLV'S: NOT ESTABLISHED**

**III - PHYSICAL DATA**

APPEARANCE ..... **POWDER**  
COLOR ..... **BLUE**  
ODOR ..... **ODORLESS**  
SOLUBILITY IN WATER ..... **SOLUBLE**  
pH ..... **NO DATA**

**IV - FIRE AND EXPLOSION DATA**

FLASH POINT ..... **Not Applicable**  
EXTINGUISHING MEDIA ..... **Water, Dry Chemical, CO2, Foam**  
SPECIAL FIRE FIGHTING PROCEDURES/UNUSUAL  
FIRE OR EXPLOSION HAZARDS: **Firefighters should be equipped with protective clothing & self-contained breathing apparatus to protect against potentially toxic & irritating fumes. In case of fire or explosion, keep unnecessary people away. Isolate hazard area & any entry. Stay upwind, out of low areas, and ventilate closed spaces before entering**

**PRODUCT: TURQUOISE MX-G**

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**V - HEALTH EFFECTS DATA**

ANIMAL TOXICITY ORAL - LD50 (INGESTION) .....NO DATA  
 FISH, LC50.....NO DATA  
 EYE EFFECTS.....MODERATELY IRRITATING TO RABBITS  
 SKIN EFFECTS .....NON-IRRITATING TO RABBITS  
 HUMAN EFFECTS OF OVEREXPOSURE .....MAY CAUSE RESPIRATORY IRRITATION

**VI - EMERGENCY AND FIRST AID PROCEDURES**

EYE CONTACT .....Wash immediately with large amounts of water, occasionally lifting the upper and lower lids until no evidence of product remain. Get medical attention. Do not wear contact lenses while handling.

SKIN CONTACT .....Wash immediately with soap and plenty of water. If a temporary skin reaction occurs, it should be treated as allergic contact dermatitis. Launder contaminated clothing before reuse.

INGESTION .....If swallowed, do not induce vomiting. Qualified medical personnel should remove the product by gastric lavage and catharsis. Get medical attention.

INHALATION .....If inhaled, remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. If breathing is difficult, give oxygen. Call a physician.

**VII - EMPLOYEE PROTECTION RECOMMENDATIONS**

EYE PROTECTION .....Employees should wear protective eye-goggles.

SKIN PROTECTION .....This material may be absorbed via the dermal route if prolonged or widespread skin contact occurs. Employees should avoid skin contact by wearing protective clothing. Long sleeve shirts, pants, rubber gloves, and boots are recommended. Additional protection such as impervious suits are recommended when the potential for dermal contact is significant. Employees should wash their hands and face before eating and drinking and shower thoroughly before leaving work.

RESPIRATORY PROTECTION .....NIOSH approved dust respirator.

VENTILATION .....Use local ventilation if dusting is a problem.

OTHER .....Emergency showers and eye wash stations should be available.

**PRODUCT: TURQUOISE MX-G****PAGE 7**

**VIII - REACTIVITY DATA**

STABILITY ..... STABLE  
 POLYMERIZATION ..... DOES NOT OCCUR  
 INCOMPATIBILITY (MATERIALS TO AVOID) ..... OXIDIZING AGENTS  
 HAZARDOUS DECOMPOSITION PRODUCTS ..... BURNING WILL PRODUCE OXIDES OF CARBON  
 MONOXIDE, NITROGEN OXIDES, AMMONIA,  
 SULFUR OXIDES, HALOGEN, HALOGEN ACIDS,  
 POSSIBLE TRACE AMOUNTS OF CARBONYL  
 HALLE.

**IX - SPILL OR LEAK PROCEDURES**

**IN CASE MATERIAL IS RELEASED/SPILLED:** Do not touch or walk through the spilled material: stop leak if you can do it without risk. Take up with sand or other non-combustible absorbent materials and place into containers for later disposal. Scrub spilled area with detergent, flush with copious amount of water.

**WASTE DISPOSAL METHOD:** Waste disposal should be in accordance with existing federal, state and local environmental regulations.

**X - SPECIAL PRECAUTIONS AND STORAGE DATA**

**HANDLING AND STORING PRECAUTIONS:** Store in dry place, away from excessive heat, in original or similar waterproof container. Reseal container immediately after use. Avoid unnecessary contact.

**XI - SHIPPING DATA**

PROPER SHIPPING NAME ..... NON-HAZARDOUS  
 D.O.T. HAZARD CLASSIFICATION ..... Non-Regulated  
 FRT. CLASS PACKAGE ..... INK MATERIAL

**XII - APPROVALS**

DATE PRINTED .....07/23/98  
 DATE APPROVED.....03/01/98

**PRODUCT: TURQUOISE MX-G**

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MATERIAL SAFETY DATA SHEET

01302-1005  
- 1016 \*

PO 1

[20694-01  
-05]

MARCH 14, 1997

RUPERT GIBBON & SPIDER, INC.  
P.O. Box 425  
Healdsburg, California 95448

SODA ASH  
ORDER NO: 217535814  
PROD NO: 04621203

VAN WATERS & ROGERS INC. 1600 HORTON BLDG. SEATTLE, WA 98104-1564

EMERGENCY ASSISTANCE

FOR EMERGENCY ASSISTANCE INVOLVING CHEMICALS CALL CHEMTREC  
(800) 424-9300.

FOR PRODUCT AND SALES INFORMATION

CONTACT YOUR LOCAL VAN WATERS & ROGERS BRANCH OFFICE

PRODUCT IDENTIFICATION

PRODUCT NAME: SODA ASH CAS NO.: 497-19-8  
COMMON NAMES/SYNONYMS: SODIUM CARBONATE, ANHYDROUS VW&R CODE: T1120  
FORMULA: NA2 CO3 DATE ISSUED: 11/94  
HAZARD RATING (MANUFACTURER) SUPERCEDES: NONE  
HEALTH: 2 HAZARD RATING SCALE:  
FIRE: 0 0=MINIMAL 3=SERIOUS  
REACTIVITY: 0 1=SLIGHT 4=SEVERE  
SPECIAL: NONE 2=MODERATE

V-1895

HAZARDOUS INGREDIENTS

COMPONENT	CAS NO.	%	EXPOSURE LIMITS, PPM			HAZARD
			OSHA PEL	ACGIH TLV	OTHER LIMIT	
SODIUM CARBONATE	(497-17-8)	100	NONE	NONE	NONE	IRRITANT

PHYSICAL PROPERTIES

BOILING POINT, DEG F: N/A VAPOR PRESSURE, MM HG/20 DEG C: N/A  
MELTING POINT, DEG F: 1564 VAPOR DENSITY (AIR=1): N/A  
SPECIFIC GRAVITY (WATER=1): 2.533 WATER SOLUBILITY, %: 30  
APPEARANCE AND ODOR: EVAPORATION RATE (BUTYL ACETATE=1): N/A  
ODORLESS, WHITE POWDER OR GRANULAR SOLID OR CRYSTAL.

FIRST AID MEASURES

IF INHALED: REMOVE TO FRESH AIR. GIVE ARTIFICIAL RESPIRATION IF NOT BREATHING. GET IMMEDIATE MEDICAL ATTENTION.  
IN CASE OF EYE CONTACT: IMMEDIATELY FLUSH EYES WITH LOTS OF RUNNING WATER FOR 15 MINUTES, LIFTING THE UPPER AND LOWER EYELIDS OCCASIONALLY. GET IMMEDIATE MEDICAL ATTENTION  
IN CASE OF SKIN CONTACT: IMMEDIATELY WASH SKIN WITH LOTS OF SOAP AND WATER. REMOVE CONTAMINATED CLOTHING AND SHOES; WASH BEFORE REUSE. GET MEDICAL ATTENTION IF IRRITATION PERSISTS AFTER WASHING.  
IF SWALLOWED: DO NOT INDUCE VOMITING. IF CONSCIOUS, GIVE LOTS OF WATER OR MILK. GET IMMEDIATE MEDICAL ATTENTION. DO NOT GIVE ANYTHING BY

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## MATERIAL SAFETY DATA SHEET

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 MOUTH TO AN UNCONSCIOUS OR CONVULSING PERSON.  
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-----HEALTH HAZARD INFORMATION-----

PRIMARY ROUTES OF EXPOSURE: INHALATION, SKIN OR EYE CONTACT.

SIGNS AND SYMPTOMS OF EXPOSURE

INHALATION: BREATHING DUST MAY IRRITATE THE NOSE AND THROAT AND CAUSE COUGHING AND CHEST DISCOMFORT EXCESSIVE CONTACT CAN CAUSE DAMAGE TO THE NASAL SEPTUM.

EYE CONTACT: DUSTS WILL IRRITATE THE EYES AND PROLONGED CONTACT MAY DAMAGE THE EYES.

SKIN CONTACT: PROLONGED OR REPEATED CONTACT WITH THE DUST MAY IRRITATE THE SKIN WITH BLISTERING AND REDNESS. SOLUTIONS MAY CAUSE SEVERE IRRITATION OR BURNS.

SWALLOWED: SWALLOWING LARGE QUANTITIES MAY CAUSE NAUSEA, VOMITING, ABDOMINAL PAIN, DIARRHEA AND COLLAPSE.

CHRONIC EFFECTS OF EXPOSURE: MAY CAUSE SENSITIZATION.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: NONE REPORTED.

-----TOXICITY DATA-----

ORAL: RATS LD50 = 4 G/KG

DERMAL: RABBITS 500 MG/24 HR, MODERATE IRRITATION

INHALATION: NO DATA FOUND.

CARCINOGENICITY: THIS MATERIAL IS NOT CONSIDERED TO BE A CARCINOGEN BY THE NATIONAL TOXICOLOGY PROGRAM, THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER, OR THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION

OTHER DATA: NONE

-----PERSONAL PROTECTION-----

VENTILATION: LOCAL MECHANICAL EXHAUST VENTILATION CAPABLE OF MAINTAINING DUST EMISSIONS AT THE POINT OF USE BELOW THE PEL.

RESPIRATORY PROTECTION: IF USE CONDITIONS GENERATE DUSTS, WEAR A NIOSH-APPROVED RESPIRATOR APPROPRIATE FOR THOSE EMISSION LEVELS. APPROPRIATE RESPIRATORS MAY BE A FULL FACEPIECE OR A HALF MASK AIR-PURIFYING CARTRIDGE RESPIRATOR WITH PARTICULATE FILTERS, A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE, OR A SUPPLIED-AIR RESPIRATOR.

EYE PROTECTION: CHEMICAL GOGGLES AND FULL FACE SHIELD. IT IS GENERALLY RECOGNIZED THAT CONTACT LENSES SHOULD NOT BE WORN WHEN WORKING WITH CHEMICALS BECAUSE CONTACT LENSES MAY CONTRIBUTE TO THE SEVERITY OF AN EYE INJURY.

PROTECTIVE CLOTHING: LONG-SLEEVED SHIRT, TROUSERS, SAFETY SHOES, RUBBER GLOVES, AND RUBBER APRON.

OTHER PROTECTIVE MEASURES: AN EYEWASH AND SAFETY SHOWER SHOULD BE NEARBY AND READY FOR USE.

-----FIRE AND EXPLOSION INFORMATION-----

FLASH POINT, DEG F: N/A

FLAMMABLE LIMITS IN AIR, %

METHOD USED: N/A

LOWER: N/A UPPER: N/A

EXTINGUISHING MEDIA: USE WATER SPRAY, DRY CHEMICAL, CO2, OR ALCOHOL

WATER.

SPECIAL FIRE FIGHTING PROCEDURES: FIRE FIGHTERS SHOULD WEAR SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE WATER SPRAY TO COOL NEARBY CONTAINERS AND STRUCTURES EXPOSED TO FIRE.

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UNUSUAL FIRE AND EXPLOSION HAZARDS: EXTINGUISH ALL NEARBY SOURCES OF IGNITION.

HAZARDOUS REACTIVITY

STABILITY: STABLE. POLYMERIZATION: WILL NOT OCCUR. CONDITIONS TO AVOID: OPEN FLAMES, WELDING ARCS, OR OTHER HIGH TEMPERATURE SOURCES WHICH MAY INDUCE THERMAL DECOMPOSITION.

MATERIALS TO AVOID: ACIDS.

HAZARDOUS DECOMPOSITION PRODUCTS: MAY LIBERATE CARBON MONOXIDE, CARBON DIOXIDE OR OXIDES OF SODIUM.

SPILL, LEAK, AND DISPOSAL PROCEDURES

ACTION TO TAKE FOR SPILLS OR LEAKS: WEAR PROTECTIVE EQUIPMENT INCLUDING RUBBER BOOTS, RUBBER GLOVES, RUBBER APRON, AND A SELF-CONTAINED BREATHING APPARATUS IN THE PRESSURE DEMAND MODE OR A SUPPLIED-AIR RESPIRATOR. IF THE SPILL OR LEAK IS SMALL, A FULL FACEPIECE AIR-PURIFYING CARTRIDGE RESPIRATOR EQUIPPED WITH PARTICULATE FILTERS MAY BE SATISFACTORY. IN ANY EVENT, ALWAYS WEAR EYE PROTECTION. FOR SMALL SPILLS, SWEEP UP AND DISPOSE OF IN DOT-APPROVED WASTE CONTAINERS. FOR LARGE SPILLS, SHOVEL INTO DOT-APPROVED WASTE CONTAINERS. KEEP OUT OF SEWERS, STORM DRAINS, SURFACE WATERS, AND SOIL. COMPLY WITH ALL APPLICABLE GOVERNMENTAL REGULATIONS ON SPILL REPORTING, AND HANDLING AND DISPOSAL OF WASTE.

DISPOSAL METHODS: DISPOSE OF CONTAMINATED PRODUCT AND MATERIALS USED IN CLEANING UP SPILLS OR LEAKS IN A MANNER APPROVED FOR THIS MATERIAL. CONSULT APPROPRIATE FEDERAL, STATE AND LOCAL REGULATORY AGENCIES TO ASCERTAIN PROPER DISPOSAL PROCEDURES.

NOTE: EMPTY CONTAINERS CAN HAVE RESIDUES, GASES AND MISTS AND ARE SUBJECT TO PROPER WASTE DISPOSAL, AS ABOVE.

SPECIAL PRECAUTIONS

STORAGE AND HANDLING PRECAUTIONS: STORE IN A COOL, DRY, WELL-VENTILATED PLACE. STORE AWAY FROM ALL OTHER CHEMICALS AND POTENTIAL SOURCES OF CONTAMINATION. KEEP CONTAINER TIGHTLY CLOSED WHEN NOT IN USE. DO NOT USE PRESSURE TO EMPTY CONTAINER. WASH THOROUGHLY AFTER HANDLING. DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING.

REPAIR AND MAINTENANCE PRECAUTIONS: NONE.

OTHER PRECAUTIONS: CONTAINERS, EVEN THOSE THAT HAVE BEEN EMPTIED, WILL RETAIN PRODUCT RESIDUE AND VAPORS. ALWAYS OBEY HAZARD WARNINGS AND HANDLE EMPTY CONTAINERS AS IF THEY WERE FULL.

FOR ADDITIONAL INFORMATION

CONTACT DOUGLAS EISNER, TECHNICAL DIRECTOR, VAN WATERS & ROGERS INC. DURING BUSINESS HOURS, PACIFIC TIME (206)447-3911

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RELATE TO ITS USE IN COMBINATION WITH ANY OTHER MATERIAL OR IN ANY OTHER PROCESS.

\*\*\*\* END OF MSDS \*\*\*\*

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U.S. DEPARTMENT OF LABOR  
Occupational Safety and Health Administration

Form Approved  
OMB No. 42.01387

## MATERIAL SAFETY DATA SHEET

Required under USDL Safety and Health Regulations for Ship Repairing,  
Shipbuilding, and Shipbreaking (29 CFR 1915, 1916, 1917)

**SECTION I**

MANUFACTURER'S NAME Norsk Hydro a.s c/o WGM/Hydro	EMERGENCY TELEPHONE NO. 415/871-1770
ADDRESS (Number, Street, City, State, and ZIP Code) 270 Lawrence Ave., So. San Francisco, CA 94080	
CHEMICAL NAME AND SYNONYMS Urea	TRADE NAME AND SYNONYMS Viking Ship Urea
CHEMICAL FAMILY Diamide of CO <sub>2</sub>	FORMULA (NH <sub>2</sub> ) <sub>2</sub> CO

**SECTION II - HAZARDOUS INGREDIENTS**

PAINTS, PRESERVATIVES, & SOLVENTS	%	TLV (Units)	ALLOYS AND METALLIC COATINGS	%	TLV (Units)
PIGMENTS	N/A		BASE METAL	N/A	
CATALYST	N/A		ALLOYS	N/A	
VEHICLE	N/A		METALLIC COATINGS	N/A	
SOLVENTS	N/A		FILLER METAL PLUS COATING OR CORE FLUX	N/A	
ADDITIVES	N/A		OTHERS	N/A	
OTHERS	N/A			N/A	
<del>HAZARDOUS</del> MIXTURES OF OTHER LIQUIDS, SOLIDS, OR GASES				%	TLV (Units)
NONE					

**SECTION III - PHYSICAL DATA**

BOILING POINT (°F.)	Decomposes	SPECIFIC GRAVITY (H <sub>2</sub> O=1)	1.3352/ml
VAPOR PRESSURE (mm Hg.)		PERCENT VOLATILE BY VOLUME (%)	
VAPOR DENSITY (AIR=1)		EVAPORATION RATE (—=1)	
SOLUBILITY IN WATER (at 25°C)	120g/100 ml		133°C
APPEARANCE AND ODOR	White Prills		

**SECTION IV - FIRE AND EXPLOSION HAZARD DATA**

FLASH POINT (Method used)	FLAMMABLE LIMITS	Lel	Uel
EXTINGUISHING MEDIA	Water		
SPECIAL FIRE FIGHTING PROCEDURES	Flood with water		

SECTION V - HEALTH HAZARD DATA	
THRESHOLD LIMIT VALUE	None established
EFFECTS OF OVEREXPOSURE	No significant hazard
EMERGENCY AND FIRST AID PROCEDURES	
No significant hazard. Usual caution should be exercised to minimize contact to skin and eyes and to avoid inhaling its dust. Flush skin and eyes with water	

SECTION VI - REACTIVITY DATA			
STABILITY	UNSTABLE		CONDITIONS TO AVOID
	STABLE	X	None
INCOMPATIBILITY (Materials to avoid)		None	
HAZARDOUS DECOMPOSITION PRODUCTS			
None			
HAZARDOUS POLYMERIZATION	MAY OCCUR		CONDITIONS TO AVOID
	WILL NOT OCCUR	X	None

SECTION VII - SPILL OR LEAK PROCEDURES	
STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED	Collect spillage for suitable disposal on arable land away from drinking water.
WASTE DISPOSAL METHOD	No special method of disposal indicated-same as above.

SECTION VIII - SPECIAL PROTECTION INFORMATION			
RESPIRATORY PROTECTION (Specify type) Filter respirator in dusty atmosphere			
VENTILATION	LOCAL EXHAUST Adequate to move dust	SPECIAL	None
	MECHANICAL (General) Adequate to move dust	OTHER	None
PROTECTIVE GLOVES	None	EYE PROTECTION If Necessary for dust.	
OTHER PROTECTIVE EQUIPMENT Adequate personal hygiene; dust proof covering.			

SECTION IX - SPECIAL PRECAUTIONS	
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	No special precautions indicated.
OTHER PRECAUTIONS	