

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : TOWERBROM® 991

Other means of identification : Not applicable.

Recommended use : MICROBIOLOGICAL INDUSTRIAL CONTROL

Restrictions on use : Refer to available product literature or ask your local Sales Representative for restrictions on use and dose limits.

Company : Nalco Company
1601 W. Diehl Road
Naperville, Illinois 60563-1198
USA
TEL: (630)305-1000

Emergency telephone number : (800) 424-9300 (24 Hours) CHEMTREC

Issuing date : 06/27/2014

SECTION 2. HAZARDS IDENTIFICATION

Emergency Overview

DANGER

CORROSIVE. CAUSES EYE AND SKIN DAMAGE. IRRITATING TO NOSE AND THROAT. HARMFUL OR FATAL IF SWALLOWED. Prolonged ingestion of large amounts may cause adverse central nervous system effects. Strong Oxidizer.

Do not get in eyes, on skin, on clothing. Remove contaminated clothing and wash before reuse. Wear goggles and face shield and rubber gloves when handling.

Not flammable or combustible. Water Reactive; material will react with water and may release a flammable or toxic gas. In addition, nitrogen trichloride, which can present an explosion hazard, can be generated slowly by the reaction of small quantities of water with a high concentration of this product. Never add water to this product. Always add product to large quantities of water.

Decomposes; flammable and/or toxic gases will form at elevated temperatures (thermal decomposition).

Potential Health Effects

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS-No.	Concentration: (%)
Trichloro-S-Triazinetrione	87-90-1	60.0 - 100.0
Sodium Bromide	7647-15-6	5.0 - 10.0
Trichloro-S-Triazinetrione	87-90-1	60 - 100

SECTION 4. FIRST AID MEASURES

In case of eye contact : Get immediate medical attention. PROMPT ACTION IS ESSENTIAL IN CASE OF CONTACT. Immediately flush eye with water for at least 15 minutes while holding eyelids open.

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- In case of skin contact : Remove contaminated clothing. Wash off affected area immediately with plenty of water. Get immediate medical attention.
- If swallowed : Get immediate medical attention. DO NOT INDUCE VOMITING. If conscious, washout mouth and give water to drink.
- If inhaled : Remove to fresh air, treat symptomatically. Get medical attention.
- Protection of first-aiders : In event of emergency assess the danger before taking action. Do not put yourself at risk of injury. If in doubt, contact emergency responders. Use personal protective equipment as required.

See toxicological information (Section 11)

SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Use water spray to cool containers exposed to fire and massive quantities of water to dilute material involved in a fire or spilled from containers. Do not use ABC or other dry chemical fire extinguishers since there is the potential for a violent reaction.
- Specific hazards during firefighting : Not flammable or combustible.
Water Reactive; material will react with water and may release a flammable or toxic gas.
In addition, nitrogen trichloride, which can present an explosion hazard, can be generated slowly by the reaction of small quantities of water with a high concentration of this product.
Never add water to this product. Always add product to large quantities of water.
Decomposes; flammable and/or toxic gases will form at elevated temperatures (thermal decomposition).
- Special protective equipment for firefighters : In case of fire, wear a full face positive-pressure self contained breathing apparatus and protective suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Restrict access to area as appropriate until clean-up operations are complete. Ensure clean-up is conducted by trained personnel only. Ensure adequate ventilation. Do not touch spilled material. Use personal protective equipment recommended in Section 8 (Exposure Controls/Personal Protection). Notify appropriate government, occupational health and safety and environmental authorities.
- Environmental precautions : This product is toxic to fish. Do not discharge effluent containing this active ingredient into lakes, streams, ponds, estuaries, oceans or other waters, unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

SECTION 7. HANDLING AND STORAGE

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Advice on safe handling : Do not get in eyes, on skin, on clothing. Do not take internally. Use with adequate ventilation. Avoid generating dusts. Keep the containers closed when not in use.

Never add water to this product. Always add product to large quantities of water.

Conditions for safe storage : Store the containers tightly closed. Store in suitable labeled containers. Store separately from bases. Keep in dry place. Store away from organic chemicals and other oxidizable materials, reducing agents, acids and alkalis. DO NOT allow water to come into contact with this material.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Exposure guidelines have not been established for this product. Available exposure limits for the substance(s) are shown below.

Contains no substances with occupational exposure limit values.

Components	CAS-No.	Form of exposure	Permissible concentration	Basis
chlorine	7782-50-5	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
		Ceiling	0.5 ppm 1.45 mg/m ³	NIOSH REL
		C	1 ppm 3 mg/m ³	OSHA Z1

Engineering measures : General ventilation is recommended. Local exhaust ventilation may be necessary when dusts or mists are generated.

Personal protective equipment

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : Tablet

Colour : White

Odour : Slight

Pungent, Halogen

Flash point : Not applicable.

pH : 3.0 - 3.5, 1 %
(25 °C)

Odour Threshold : no data available

Melting point/freezing point : MELTING POINT: > 225 °C, Decomposes

Initial boiling point and boiling range : > 225 °C Decomposes on heating.

Evaporation rate : no data available

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Flammability (solid, gas)	: no data available
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: no data available
Relative vapour density	: no data available
Relative density	: no data available
Density	: no data available
Water solubility	: 0.12 g/l (25 °C)
Solubility in other solvents	: no data available
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Viscosity, kinematic	: no data available
VOC	: 0 %

SECTION 10. STABILITY AND REACTIVITY

Conditions to avoid	: Moisture
Incompatible materials	: Do not bring in contact with organic materials and reducing agents. DO NOT allow water to come into contact with this material.
Hazardous decomposition products	: Oxides of nitrogen (NO _x), disodium oxide, bromine, and traces of phosgene (under fire conditions); chlorine (released in presence of moisture) and other chlorine containing compounds; hypobromous acid, hypochlorous acid, and cyanuric acid (released when dissolved in water); nitrogen trichloride, an explosion hazard (generated slowly by the reaction of small quantities of water with high concentration of this product).

SECTION 11. TOXICOLOGICAL INFORMATION

Potential Health Effects

Experience with human exposure

Toxicity

Product

Acute oral toxicity	: LD50 rat: 840 mg/kg Test substance: Hazardous component
Acute inhalation toxicity	: no data available
Acute dermal toxicity	: LD50 rabbit: > 5,000 mg/kg Test substance: Hazardous component

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Skin corrosion/irritation : no data available

Serious eye damage/eye irritation : no data available

Respiratory or skin sensitization : no data available

Carcinogenicity : no data available

Reproductive effects : no data available

Germ cell mutagenicity : no data available

Teratogenicity : no data available

STOT - single exposure : no data available

STOT - repeated exposure : no data available

Aspiration toxicity : no data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product

Toxicity to fish : LC50 Bluegill Sunfish: 0.4 mg/l
Exposure time: 96 hrs

LC50 Rainbow Trout: 0.24 mg/l
Exposure time: 96 hrs

LC50 Fathead Minnow: 0.7 mg/l
Exposure time: 48 hrs
Test substance: 50% Active Ingredient

LC50 Inland Silverside: 2.7 mg/l
Exposure time: 96 hrs
Test substance: 50% Active Ingredient

LC50 Inland Silverside: 1.0 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 Fathead Minnow: 0.26 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to daphnia and other aquatic invertebrates : LC50 Daphnia magna: 0.21 mg/l
Exposure time: 48 hrs

LC50 Mysid Shrimp (Mysidopsis bahia): 4.4 mg/l
Exposure time: 96 hrs
Test substance: 50% Active Ingredient

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LC50 Mysid Shrimp (*Mysidopsis bahia*): 1.6 mg/l
Exposure time: 96 hrs
Test substance: Product

LC50 *Daphnia magna*: 0.93 mg/l
Exposure time: 48 hrs
Test substance: Product

Toxicity to algae : LC50 Green Algae (*Pseudokirchneriella subcapitata*, previously *Selenastrum capricornutum*): 0.2 mg/l
Exposure time: 96 hrs
Test substance: Product

Persistence and degradability

The organic content of the product is biological degradable.

Mobility

The environmental fate was estimated using a level III fugacity model embedded in the EPI (estimation program interface) Suite TM, provided by the US EPA. The model assumes a steady state condition between the total input and output. The level III model does not require equilibrium between the defined media. The information provided is intended to give the user a general estimate of the environmental fate of this product under the defined conditions of the models.

If released into the environment this material is expected to distribute to the air, water and soil/sediment in the approximate respective percentages;

Air : <5%
Water : 30 - 50%
Soil : 50 - 70%

Bioaccumulative potential

The product will not bioaccumulate.

Other information

no data available

SECTION 13. DISPOSAL CONSIDERATIONS

If this product becomes a waste, it could meet the criteria of a hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Before disposal, it should be determined if the waste meets the criteria of a hazardous waste.

Hazardous Waste: : D001, D003

Disposal methods : Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

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SECTION 14. TRANSPORT INFORMATION

The shipper/consignor/sender is responsible to ensure that the packaging, labeling, and markings are in compliance with the selected mode of transport.

Land transport (DOT)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

Air transport (IATA)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

Sea Transport (IMDG/IMO)

Proper shipping name : TRICHLOROISOCYANURIC ACID, DRY, MIXTURE
Technical name(s) : Trichloro-S-Triazinetrione
UN/ID No. : UN 2468
Transport hazard class(es) : 5.1
Packing group : II

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard

SARA 302 : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

California Prop 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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NSF NON-FOOD COMPOUNDS REGISTRATION PROGRAM (former USDA List of Proprietary Substances & Non-Food Compounds) :

NSF Registration number for this product is : 138722

This product is acceptable for treatment of cooling and retort water (G5) in and around food processing areas. This product is acceptable for treating boilers, steam lines, and/or cooling systems (G7) where neither the treated water nor the steam produced may contact edible products in and around food processing areas.

FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT (FIFRA) :

EPA Reg. No. 935-75-1706

In all cases follow instructions on the product label.

This product has been certified as KOSHER/PAREVE for year-round use INCLUDING THE PASSOVER SEASON by the CHICAGO RABBINICAL COUNCIL.

INTERNATIONAL CHEMICAL CONTROL LAWS :

TOXIC SUBSTANCES CONTROL ACT (TSCA)

The substances in this preparation are included on or exempted from the TSCA 8(b) Inventory (40 CFR 710)

CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA)

Substances regulated under the Pest Control Products Act are exempt from CEPA New Substance Notification requirements.

AUSTRALIA

All substances in this product comply with the National Industrial Chemicals Notification & Assessment Scheme (NICNAS).

EUROPE

The substance(s) in this preparation are included in or exempted from the EINECS or ELINCS inventories

JAPAN

All substances in this product comply with the Law Regulating the Manufacture and Importation Of Chemical Substances and are listed on the Existing and New Chemical Substances list (ENCS).

KOREA

All substances in this product comply with the Toxic Chemical Control Law (TCCL) and are listed on the Existing Chemicals List (ECL)

PHILIPPINES

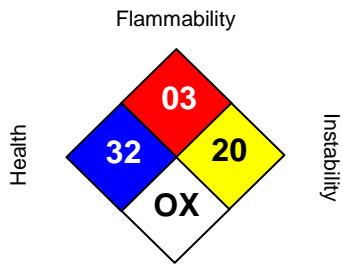
All substances in this product comply with the Republic Act 6969 (RA 6969) and are listed on the Philippines Inventory of Chemicals & Chemical Substances (PICCS).

SECTION 16. OTHER INFORMATION

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NFPA:



HMIS III:

HEALTH	32
FLAMMABILITY	0 3
PHYSICAL HAZARD	2

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Revision Date : 06/27/2014
Version Number : 1.13
Prepared By : Regulatory Affairs

REVISED INFORMATION: Significant changes to regulatory or health information for this revision is indicated by a bar in the left-hand margin of the SDS.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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