

World Headquarters
Hach Company
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MSDS No: M00022

SAFETY DATA SHEET

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product Name: Chloride 2 Indicator
Catalog Number: 104399

HACH LANGE GmbH
Willstätterstrasse 11
40549 Düsseldorf, Germany
+49 -(0)211 -52880

Emergency Telephone Numbers:
(Poison Information Center Main)
(+49 (0) 6131 19240) 24 HR

SDS Number: M00022

Chemical Name: Not applicable

Chemical Formula: Not applicable

Chemical Family: Not applicable

Use of the substance/preparation: Determination of chloride

CAS No.: Not applicable

Hazard: Toxic. Carcinogen. Causes eye burns.

Date of MSDS Preparation:

Day: 12

Month: 01

Year: 2006

Additional Emergency Response Numbers: Austria: +49 (0)6131 19240, Belgium: +32 -(0)70 -245245, France: +33 (0)1 -40370404, Italy: +39 -0266101029, Netherlands: +31 -(0)30 -2748888, Switzerland: +41 -(0)1 -2515151

2. COMPOSITION / INFORMATION ON INGREDIENTS

Potassium Chromate

EEC Number: 2321405

CAS No.: 778906

Percent Range: 45,0 - 55,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: T - TOXIC

Ingredient R phrase(s) (R phrase details given in Heading 16): R 49 R 46 R 36/37/38 R 43

TLV: 0,05 mg/m³ (as Cr⁺⁶)

PEL: 0,5 mg/m³ (Cr⁺⁶), Ceiling; Proposed PEL: 1 µg Cr⁶/m³, TWA (Oct 4 FR Pg 59307).

EU Occupational Exposure Limits: 0,05 mg/m³ as Cr⁶

Sodium Bicarbonate

EEC Number: 2056338

CAS No.: 144-55-8

Percent Range: 45,0 - 55,0

Percent Range Units: weight / weight

Ingredient EEC Symbol: Not applicable

Ingredient R phrase(s) (R phrase details given in Heading 16): Not applicable

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

3. HAZARDS IDENTIFICATION

Emergency Overview:

Appearance: Bright yellow powder

Odor: None

EU Symbols: T - TOXIC N - DANGEROUS FOR THE ENVIRONMENT

R PHRSES: R 49: May cause cancer by inhalation. R 46: May cause heritable genetic damage. R 36/37/38: Irritating to eyes, respiratory system and skin. R 43: May cause sensitization by skin contact. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Protective Equipment:

Potential Health Effects:

Eye Contact (EC): Causes irritation

Skin Contact (EC): May cause: redness skin sensitization Repeated exposures may cause dermatitis Contact through broken or abraded skin may cause: scarring ulcerations

Skin Absorption (EC): Will be absorbed through the skin. Effects similar to those of ingestion

Target Organs (SA E): Liver

Ingestion (EC): May cause: abdominal pain diarrhea dizziness thirst shock liver damage followed by circulatory collapse toxic nephritis (inflammation of the kidneys) alkalosis which causes abnormally high alkali reserve of the blood and other body fluids

Target Organs (Ing E): Liver

Inhalation: May cause: respiratory tract irritation coughing wheezing pulmonary sensitization

Target Organs (Inh E): Liver

Medical Conditions Aggravated: Pre-existing: Skin conditions Allergies or sensitivity to chromates or chromic acid. Asthma

Chronic Effects: Chromate and dichromate salts may cause ulceration and perforation of the nasal septum, severe liver damage, central nervous system effects, and lung cancer. Chronic overexposure may cause dermatitis

Cancer / Reproductive Toxicity Information:

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen
Hexavalent Chromium Compounds

Additional Cancer / Reproductive Toxicity Information: Contains: an experimental mutagen.

Toxicologically Synergistic Products: None reported

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with water for 15 minutes. Call physician.

Skin Contact (First Aid): Wash skin with plenty of water for 15 minutes. Remove contaminated clothing. Call physician immediately.

Ingestion (First Aid): Do not induce vomiting. Give 1-2 glasses of water. Call physician immediately. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air. Give artificial respiration if necessary. Call physician.

5. FIRE FIGHTING MEASURES

Flammable Properties: During a fire, this product decomposes to form toxic gases. Strong oxidizer. Contact with combustible materials may cause a fire or explosion.

Hazardous Combustion Products: Toxic fumes of: carbon monoxide, carbon dioxide, sodium monoxide, chromium oxides

Fire / Explosion Hazards: May react violently with: combustible materials organic materials

Static Discharge: None reported.

Mechanical Impact: None reported

Extinguishing Media: Carbon dioxide Dry chemical. Water.

Extinguishing Media NOT To Be Used: Not applicable Not applicable Not applicable

Fire Fighting Instruction: As in any fire, wear self-contained breathing apparatus pressure-demand and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Spill Response Notice:

Only persons properly qualified to respond to an emergency involving hazardous substances should respond to a spill involving chemicals. See Section 13, Special Instructions for disposal assistance.

Containment Technique: Releases of this material may contaminate the environment. Stop spilled material from being released to the environment.

Clean -up Technique: Avoid contact with spilled material. Sweep up material. Dispose of material in an E.P.A. approved hazardous waste facility. Decontaminate the area of the spill with a soap solution.

Evacuation Procedure: Evacuate general area (50 foot radius or as directed by your facility's emergency response plan) when: any quantity is spilled. If conditions warrant, increase the size of the evacuation.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes skin clothing Do not breathe dust. Wash thoroughly after handling. Use with adequate ventilation. Maintain general industrial hygiene practices when using this product.

Storage: Protect from: heat moisture Keep away from: oxidizable materials

Special Packaging Instructions: Not applicable

Use of the substance/preparation: Determination of chloride

8. EXPOSURE CONTROLS / PROTECTIVE EQUIPMENT

Engineering Controls: Have an eyewash station nearby. Maintain adequate ventilation to keep vapor level below TWA for chemicals in this product. Maintain general industrial hygiene practices when using this product.

Personal Protective Equipment:

Eye Protection: safety glasses with top and side shields

Skin / Hand Protection: disposable latex gloves lab coat

Inhalation Protection: dust / mist mask and / or laboratory fume hood

Precautionary Measures: Avoid contact with: eyes skin clothing Do not breathe: dust Wash thoroughly after handling. Protect from: heat moisture Keep away from: organic materials

TLV: Not established

PEL: Not established

EU Occupational Exposure Limits: 3 mg/m³, Inhalable dust

9. PHYSICAL / CHEMICAL PROPERTIES

Appearance: Bright yellow powder

Physical State: Solid

Odor: None

pH: 5% solution = 8,2

Vapor Pressure: Not applicable

Vapor Density (air = 1): Not applicable

Boiling Point: Not applicable

Melting Point: decomposes @ 100°C; 212°F

Flash Point: Not applicable

Method: Not applicable

Autoignition Temperature: Not available

Flammability Limits:

Lower Explosion Limits: Not applicable

Upper Explosion Limits: Not applicable

Specific Gravity (water = 1): 2,25

Evaporation Rate (water = 1): Not applicable

Volatile Organic Compounds Content: Not applicable

Partition Coefficient (n -octanol / water): Not applicable

Solubility:

Water: Soluble

Acid: Not determined

Other: Not determined

Metal Corrosivity:

Steel: Not Applicable

Aluminum: Not Applicable

10. STABILITY / REACTIVITY

Chemical Stability: Stable when stored under proper conditions.

Conditions to Avoid: Heating to decomposition. Excess moisture

Reactivity / Incompatibility: Incompatible with: organic materials reducers

Hazardous Decomposition: Toxic fumes of: carbon monoxide carbon dioxide chromium trioxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Product Toxicological Data:

LD50: Oral rat LD50 = 128 mg/kg

LC50: None reported

Dermal Toxicity Data: None reported

Skin and Eye Irritation Data: Skin rabbit 500 mg - no erythema, no edema

Mutation Data: Potassium chromate- DNA damage in human fibroblast @ 50 µmol/l/4 hr; DNA damage in human lung @ 25 µmol/l; Unscheduled DNA synthesis in human fibroblast @ 100 µmol/l

Reproductive Effects Data: None reported

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Ingredient Toxicological Data: Sodium Bicarbonate Oral rat LD50 = 4220 mg/kg; Potassium Chromate Oral rat LD50 = 180 mg/kg

An ingredient of this mixture is: IARC Group 1: Recognized Carcinogen
Hexavalent Chromium Compounds

12. ECOLOGICAL INFORMATION

Product Ecological Information: --

No ecological data available for this product.

Ingredient Ecological Information: --

No ecological data available for the ingredients of this product.

13. DISPOSAL CONSIDERATIONS

NOTICE (Disposal): These disposal guidelines are based on federal regulations and may be superseded by more stringent state or local requirements. Please consult your local environmental regulators for more information. In Europe: Chemical and analysis solutions must be disposed of in compliance with the respective national regulations. Product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system.

14. TRANSPORT INFORMATION

I.C.A.O.:

I.C.A.O. Proper Shipping Name: Toxic Solid, Inorganic, N.O.S.
(Potassium Chromate Mixture)

ICAO Hazard Class: 6.1

ICAO Subsidiary Risk: NA

ICAO UN/ID Number: UN3288

ICAO Packing Group: III

I.M.O.:

I.M.O. Proper Shipping Name: Toxic Solid, Inorganic, N.O.S.
(Potassium Chromate Mixture)

I.M.O. Hazard Class: 6.1

I.M.O. Subsidiary Risk: NA

I.M.O. UN Number: UN3288

I.M.O. Packing Group: III

A.D.R.:

A.D.R. Proper Shipping Name: Toxic Solid, Inorganic, N.O.S.
(Potassium Chromate Mixture)

A.D.R. Hazard Class: 6.1

A.D.R. Subsidiary Risk: NA

A.D.R. UN -Number:: 3288

A.D.R. Packing Group: III

Additional Information: This product may be shipped as part of a chemical kit composed of various compatible dangerous goods for analytical or testing purposes. This kit would have the following classification: Proper Shipping Name: Chemical Kit Hazard Class: 9 UN Number 3316

15. REGULATORY INFORMATION

National Inventories:

EEC Inventory Status: All ingredients used to make this product are listed on EINECS / ELINCS.

EEC Number: Not applicable

EEC LABEL COPY:

EU Symbols: T - TOXIC N - DANGEROUS FOR THE ENVIRONMENT

R PHRASES: R 49: May cause cancer by inhalation. R 46: May cause heritable genetic damage. R 36/37/38: Irritating to eyes, respiratory system and skin. R 43: May cause sensitization by skin contact. R 50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S PHRASES: S 53: Avoid exposure - obtain special instructions before use. S 36/37/39: Wear suitable protective clothing, gloves and eye/face protection. S 45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). S 60: This material and / or its container must be disposed of as hazardous waste.

16. OTHER INFORMATION

References: 29 CFR 1900 - 1910 (Code of Federal Regulations - Labor). Air Contaminants, Federal Register, Vol. 54, No. 12. Thursday, January 19, 1989. pp. 2332 -2983. TLV's Threshold Limit Values and Biological Exposure Indices for 1992 -1993. American Conference of Governmental Industrial Hygienists, 1992. The Merck Index, 11th Ed. Rahway, New Jersey: Merck and Co., Inc., 1989. CCINFO RTECS. Canadian Centre for Occupational Health and Safety. Hamilton, Ontario Canada: 30 June 1993. IARC Monographs on the Evaluation of the Carcinogenic Risks to Humans. World Health Organization (Volumes 1 -42) Supplement 7. France: 1987. In-house information. Outside Testing. Vendor Information. Technical Judgment. Cassaret and Doull's Toxicology, 3rd Ed. New York: Macmillan Publishing Co., Inc., 1986. List of Dangerous Substances Classified in Annex I of the EEC Directive (67/548) - Classification, Packaging and Labeling of Dangerous Substances, Amended July 1992. Patty, Frank A. Industrial Hygiene and Toxicology, 3rd Revised Edition. Volume 2. New York: A Wiley-Interscience Publication, 1981. Sax, N. Irving. Dangerous Properties of Industrial Materials, 7th Ed. New York: Van Nostrand Reinhold Co., 1989. Sixth Annual Report on Carcinogens, 1991. U.S. Department of Health and Human Services. Rockville, MD: Technical Resources, Inc. 1991.

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Use of the substance/preparation: Determination of chloride

Revision Summary: Updates in Section(s) 14,

Legend:

NA - Not Applicable	w/w - weight/weight
ND - Not Determined	w/v - weight/volume
NV - Not Available	v/v - volume/volume

USER RESPONSIBILITY: Each user should read and understand this information and incorporate it in individual site safety programs in accordance with applicable hazard communication standards and regulations.

THE INFORMATION CONTAINED HEREIN IS BASED ON DATA CONSIDERED TO BE ACCURATE. HOWEVER, NO WARRANTY IS EXPRESSED OR IMPLIED REGARDING THE ACCURACY OF THESE DATA OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF.

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