



The MSDS format adheres to the standards and regulatory requirements of the United States and may not meet regulatory requirements in other countries.

DuPont  
Material Safety Data Sheet

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L0000100 D-4000 LIQUID DEVELOPER CONCENTRATE  
Revised 9-AUG-2002  
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CHEMICAL PRODUCT/COMPANY IDENTIFICATION  
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Material Identification

Corporate MSDS Number : DU002718

Tradenames and Synonyms

Potassium Carbonate Liquid  
Carbonate of Potash Solution

Company Identification

MANUFACTURER/DISTRIBUTOR  
DuPont  
1007 Market Street  
Wilmington, DE 19898

PHONE NUMBERS

Product Information : 1-800-441-7515 (outside the U.S.  
302-774-1000)  
Transport Emergency : CHEMTREC 1-800-424-9300(outside U.S.  
703-527-3887)  
Medical Emergency : 1-800-441-3637 (outside the U.S.  
302-774-1000)

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COMPOSITION/INFORMATION ON INGREDIENTS  
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Components

Material	CAS Number	%
POTASSIUM CARBONATE	584-08-7	30-60
WATER	7732-18-5	40-70

Composition ranges are expressed in weight %.

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HAZARDS IDENTIFICATION  
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Potential Health Effects

POTASSIUM CARBONATE

In acute toxicity testing in animals, potassium carbonate was of slight toxicity by ingestion. It is a skin, eye, nose and throat irritant. Prolonged eye contact can cause corneal destruction and loss of vision. Ingestion of strong concentrations can cause gastrointestinal tract irritation.

ANIMAL DATA

## (HAZARDS IDENTIFICATION - Continued)

Oral LD50: 1870 mg/kg in rats

Potassium carbonate is a mild skin irritant and an eye irritant. Toxic effects described in animals from single exposures by ingestion include a cellular change in the kidney tubules. Animal testing indicates that potassium carbonate does not have developmental effects. Potassium carbonate does not produce genetic damage in bacterial and mammalian cell cultures but has not been tested in animals.

## HUMAN HEALTH EFFECTS OF OVEREXPOSURE BY:

Skin contact may include skin irritation or rash. Eye contact may cause eye irritation with tearing, or blurring of vision. Prolonged eye contact can cause corneal destruction and loss of vision. Inhalation of the mist or dust may cause irritation of the upper respiratory passages, with discomfort and coughing. Ingestion of strong concentrations may include gastrointestinal tract irritation.

Test data shows that this material is corrosive to the skin.

## Carcinogenicity Information

None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

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FIRST AID MEASURES  
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## First Aid

## INHALATION

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

## SKIN CONTACT

Flush skin with water after contact. Wash contaminated clothing before reuse.

## EYE CONTACT

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Call a physician.

## INGESTION

## (FIRST AID MEASURES - Continued)

If swallowed, do not induce vomiting. Give large quantity of water. Call a physician immediately. Never give anything by mouth to an unconscious person.

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FIRE FIGHTING MEASURES  
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## Flammable Properties

Will not burn.

Hazardous gases/vapors produced in fire are potassium oxides and oxides of carbon.

## Extinguishing Media

Use media appropriate for surrounding material.

## Fire Fighting Instructions

Keep personnel removed and upwind of fire. Wear self-contained breathing apparatus. Wear full protective equipment.

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ACCIDENTAL RELEASE MEASURES  
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## Safeguards (Personnel)

NOTE: Review FIRE FIGHTING MEASURES and HANDLING (PERSONNEL) sections before proceeding with clean-up. Use appropriate PERSONAL PROTECTIVE EQUIPMENT during clean-up.

## Initial Containment

Dike spill. Prevent material from entering sewers, waterways, or low areas.

## Spill Clean Up

Soak up with sawdust, sand, oil dry or other absorbent material.

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HANDLING AND STORAGE  
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## Handling (Personnel)

Do not get in eyes. Avoid breathing vapors or mist. Avoid contact with skin. Avoid contact with clothing. Wash thoroughly after handling.

## Handling (Physical Aspects)

Close container after each use.

## (HANDLING AND STORAGE - Continued)

## Storage

Keep container tightly closed.

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EXPOSURE CONTROLS/PERSONAL PROTECTION  
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## Engineering Controls

Keep container tightly closed.

Use ventilation that is adequate to keep employee exposure to airborne concentrations below recommended exposure limits.

## Personal Protective Equipment

## EYE/FACE PROTECTION

Wear safety glasses. Wear coverall chemical splash goggles and face shield when the possibility exists for eye and face contact due to splashing or spraying of material.

## RESPIRATORS

A NIOSH/MSHA approved air purifying respirator with a mist cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

## PROTECTIVE CLOTHING

Wear impervious clothing, such as gloves, apron, boots or whole bodysuit made from Neoprene, as appropriate.

## Exposure Guidelines

## Exposure Limits

## D-4000 LIQUID DEVELOPER CONCENTRATE

PEL	(OSHA)	: None Established
TLV	(ACGIH)	: None Established

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PHYSICAL AND CHEMICAL PROPERTIES  
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## Physical Data

Boiling Point : 108 C (226 F) @ 760 mm Hg  
Vapor Pressure : 12 mm Hg @ 20.5 C (68.9 F)  
Freezing Point : -10.8 C (12.6 F)  
Solubility in Water : 100 WT% @ 20 C (68 F)  
pH : 13  
11.6 Working Strength  
Odor : Odorless  
Form : Clear liquid  
Color : Colorless  
Specific Gravity : 1.41 @ 15.6C (60F)

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STABILITY AND REACTIVITY  
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## Chemical Stability

Stable at normal temperatures and storage conditions.

## Incompatibility with Other Materials

Incompatible with acids (releases CO<sub>2</sub>); calcium oxide (forms potassium hydroxide).

## Polymerization

Polymerization will not occur.

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DISPOSAL CONSIDERATIONS  
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## Waste Disposal

Treatment, storage, transportation, and disposal must be in accordance with applicable Federal, State/Provincial, and Local regulations.

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TRANSPORTATION INFORMATION  
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## # Shipping Information

DOT/IMO/IATA  
Proper Shipping Name : Corrosive Liquid, n.o.s., (Contains potassium carbonate)  
Hazard Class : 8  
UN No. : 1760  
Packing Group : III

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REGULATORY INFORMATION  
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## U.S. Federal Regulations

TSCA Inventory Status : Listed.

## TITLE III HAZARD CLASSIFICATIONS SECTIONS 311, 312

Acute : Yes  
Chronic : Yes  
Fire : No  
Reactivity : No  
Pressure : No-----  
OTHER INFORMATION  
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## NFPA, NPCA-HMIS

NFPA Rating  
Health : 2  
Flammability : 0  
Reactivity : 1-----  
The data in this Material Safety Data Sheet relates only to the specific material designated herein and does not relate to use in combination with any other material or in any process.DUPONT iTECHNOLOGIES  
14 ALEXANDER DRIVE  
RESEARCH TRIANGLE PARK, NC 27709  
919-248-5345 OR 919-248-5027

# Indicates updated section.

This information is based upon technical information believed to be reliable. It is subject to revision as additional knowledge and experience is gained.

End of MSDS