Section 1: IDENTIFICATION

Product Identifier

Product Form: Mixture

Product Name: Flow-K™

Intended Use of the Product

Food ingredient. Leavening agent. For professional use only.

Name, Address, and Telephone of the Responsible Party

Company
Church & Dwight
469 North Harrison Street
Princeton, NJ 08543 USA
T (800) 221-0453
www.churchdwight.com

Emergency Telephone Number

Emergency Number: For Medical Emergency: 1-888-234-1828, For Chemical Emergency: 1-800-424-9300 (CHEMTREC)

Section2: HAZARDS IDENTIFICATION

OSHA REGULATORY STATUS: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

EMERGENCY OVERVIEW:

Color:	White
Physical state	Solid
Appearance:	Granular, Powder
Odor:	Odorless
Signal Word:	**WARNING**

MAJOR HEALTH HAZARDS: CAUSES EYE IRRITATION. CAUSES MILD SKIN IRRITATION. HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION.

PRECAUTIONARY STATEMENTS: Avoid breathing dust. Avoid contact with skin and eyes. Wash skin and contaminated clothing thoroughly after handling. Use only with adequate ventilation. Store in well-ventilated place. Keep container tightly closed.

ADDITIONAL HAZARD INFORMATION: Good hygiene and safety practices should be used when handling and working with this material. Good hygiene practices include but are not limited to: wearing suitable gloves and/or eye protection; washing hands and affected skin immediately after handling, before breaks, and at the end of the workday; regularly cleaning work area and clothing; etc.

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GHS CLASSIFICATION:

GHS: CONTACT HAZARD - SKIN:	Category 3 - Causes mild skin irritation

GHS: CONTACT HAZARD - EYE:	Category 2B - Causes eye irritation
GHS: SENSITIZATION HAZARD:	Not classified as a skin sensitizer per GHS criteria This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction
GHS: ACUTE TOXICITY - INHALATION:	Category 4 - Harmful if inhaled
GHS: ACUTE TOXICITY - ORAL:	Not classified as acutely toxic for oral exposure
GHS: ACUTE TOXICITY - DERMAL:	Not classified as acutely toxic for dermal exposure
GHS: TARGET ORGAN TOXICITY (SINGLE EXPOSURE):	Category 3 - May cause respiratory tract irritation
GHS: CARCINOGENICITY:	This product is not classified as a carcinogen by NTP, IARC or OSHA.

UNKNOWN ACUTE TOXICITY:
Not applicable. This product was tested as a whole. This information only pertains to untested mixtures.

GHS SYMBOL:
Exclamation mark

GHS SIGNAL WORD: WARNING

GHS HAZARD STATEMENTS:

GHS - Health Hazard Statement(s)
Causes eye irritation
Causes mild skin irritation
Harmful if inhaled
May cause respiratory irritation

GHS - Precautionary Statement(s) - Prevention
Avoid breathing dust, fume, gas, mist, vapors, or spray.
Wash thoroughly after handling
Use only outdoors or in a well-ventilated area

GHS - Precautionary Statement(s) - Response
IF INHALED: Remove person to fresh air and keep comfortable for breathing
Call a POISON CENTER or doctor/physician if you feel unwell
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
If skin irritation occurs: Get medical advice/attention

GHS - Precautionary Statement(s) - Storage
Store in a well-ventilated place. Keep container tightly closed
Store locked up

GHS - Precautionary Statement(s) - Disposal
Dispose of contents and container in accordance with applicable local, regional, national, and/or international regulations

Hazards Not Otherwise Classified (HNOC)
None Known

See Section 11: TOXICOLOGICAL INFORMATION

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: Carbonic acid, monopotassium salt, KBC, Pot bicarb, Potassium acid carbonate, Anhydrous potassium bicarbonate, Potassium hydrogen carbonate

Component	Percent [%]	CAS Number
Potassium Bicarbonate	95 - 100	298-14-6
Potassium Carbonate	< 2.5	584-08-7
This product contain <1 % of a non-hazardous Inorganic flow-aid		

Section 4: FIRST AID MEASURES

INHALATION: If inhaled and adverse effects occur, remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

SKIN CONTACT: Brush off excess chemical. Flush contaminated areas with water. If skin irritation occurs: Get medical advice/ attention.

EYE CONTACT: Immediately flush contaminated eyes with a directed stream of water for as long as possible. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

INGESTION: No hazard expected. If large amounts are ingested, get medical advice/attention.

Inhalation (Breathing): Respiratory Irritation: Upper airway irritation, may cause cough, redness of mouth and upper airways.
Skin: Skin Irritation: Exposure to skin may cause redness, or irritation.
Eye: Eye Irritation: Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.
Ingestion (Swallowing): No effects identified.

Delayed Symptoms/Effects:
- No delayed / chronic effects have been identified

Interaction with Other Chemicals Which Enhance Toxicity: None known.

Medical Conditions Aggravated by Exposure: May aggravate preexisting conditions, such as: eye disorders that decrease tear production or have reduced integrity of the eye; skin disorders that compromise the integrity of the skin.

Protection of First-Aiders: Avoid contact with skin and eyes. Do not breathe dust. At minimum, treating personnel should utilize PPE sufficient for prevention of bloodborne pathogen transmission.

Notes to Physician: This material dissociated into potassium and bicarbonate ions upon contact with water.

5. FIRE-FIGHTING MEASURES

Fire Hazard: Negligible fire hazard.

Extinguishing Media: Use extinguishing agents appropriate for surrounding fire.

Fire Fighting: Move container from fire area if it can be done without risk. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas.

Hazardous Combustion Products: Oxides of carbon, Potassium oxides, Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere

Sensitivity to Mechanical Impact: Not sensitive.

Sensitivity to Static Discharge: Not sensitive.

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Flash point: Not flammable

Auto-ignition Temperature: Not applicable

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions:
Avoid breathing dust. Avoid contact with skin and eyes. Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.

Methods and Materials for Containment and Cleaning Up:
Shovel dry material into suitable container. Flush spill area with water, if appropriate.

Environmental Precautions:
Keep out of water supplies and sewers. Releases should be reported, if required, to appropriate agencies.

Section 7: HANDLING AND STORAGE

Precautions for Safe Handling:
Avoid breathing dust. Wash thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke. Do not reuse containers. Wear personal protective equipment as described in Exposure Controls/Personal Protection (Section 8) of the SDS.

Safe Storage Conditions:
Store and handle in accordance with all current regulations and standards. Keep container tightly closed and properly labeled. Material is very hygroscopic. Store in a cool, dry area. Keep separated from incompatible substances (see below or Section 10 of the Safety Data Sheet).

Incompatibilities/ Materials to Avoid:
Lime, acids, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys

Section 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Regulatory Exposure Limit(s): As listed below.

OEL: Occupational Exposure Limit; OSHA: United States Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; TWA: Time Weighted Average; STEL: Short Term Exposure Limit

NON-REGULATORY EXPOSURE LIMIT(S): As listed below.

Component	CAS Number	ACGIH TWA	ACGIH STEL	ACGIH Ceiling	OSHA TWA (Vacated)	OSHA STEL (Vacated)	OSHA Ceiling (Vacated)
Potassium Bicarbonate	298-14-6						

- The Non-Regulatory United States Occupational Safety and Health Administration (OSHA) limits, if shown, are the Vacated 1989 PEL's (vacated by 58 FR 35338, June 30, 1993).

- The American Conference of Governmental Industrial Hygienists (ACGIH) is a voluntary organization of professional industrial hygiene personnel in government or educational institutions in the United States. The ACGIH develops and publishes recommended occupational exposure limits each year called Threshold Limit Values (TLVs) for hundreds of chemicals, physical agents, and biological exposure indices.

ENGINEERING CONTROLS: Provide local exhaust ventilation where dust or mist may be generated. Ensure compliance with applicable exposure limits.

PERSONAL PROTECTIVE EQUIPMENT:

Eye Protection: Wear safety glasses with side-shields. If eye contact is likely, wear chemical resistant safety goggles.

Skin and Body Protection: When potential for contact with dry material exists, wear disposable coveralls suitable for dust exposure, such as Tyvek®. When potential for contact with wet material exists, wear Tychem® or similar chemical protective suit. Contaminated clothing should be removed and laundered before reuse.

Hand Protection: Wear appropriate chemical resistant gloves. Consult a glove supplier for assistance in selecting an appropriate chemical resistant glove.

Protective Material Types: Neoprene, Nitrile, Butyl rubber, Natural rubber

Respiratory Protection: A NIOSH approved respirator with high efficiency particulate air (HEPA) cartridges may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits, or when symptoms have been observed that are indicative of overexposure. When an air purifying respirator is not adequate for spills and/or emergencies of unknown concentrations, an approved self-contained breathing apparatus operated in the pressure demand mode is required. A respiratory protection program that meets 29 CFR 1910.134 must be followed whenever workplace conditions warrant use of a respirator.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid
Appearance:	Granular, Powder
Color:	White
Odor:	Odorless
Odor Threshold [ppm]:	No data available. No odor warning properties.
Molecular Weight:	100.12
Molecular Formula:	KHCO3
Decomposition Temperature:	212 - 392 °F (100 - 200 °C)
Boiling Point/Range:	Not applicable
Freezing Point/Range:	Not applicable.
Melting Point/Range:	212 - 392 °F (100 - 200 °C) (decomposes)
Vapor Pressure:	Not applicable
Relative Density - Specific Gravity (water=1):	2.17
Density:	68 lbs/ft3
Water Solubility:	23% @ 20 °C
pH:	slightly basic in solution; pH 8.2 for 1% solution at 25°C
Evaporation Rate (ether=1):	Not applicable
Partition Coefficient (n-octanol/water):	No data available
Flash point:	Not flammable
Flammability (solid, gas):	Not flammable

Lower Flammability Level (air): Not flammable

Upper Flammability Level (air): Not flammable

Auto-ignition Temperature: Not applicable

Viscosity: Not applicable to solids
Hygroscopic: Yes

Section 10: STABILITY AND REACTIVITY

Reactivity: Not reactive under normal temperatures and pressures.

Chemical Stability: Stable at normal temperatures and pressures.

Possibility of Hazardous Reactions:
Temperatures above 100 °C (212 °F). Avoid contact with lime to prevent formation of corrosive potassium hydroxide (KOH).

Conditions to Avoid:
(e.g., static discharge, shock, or vibration) - None known.

Incompatibilities/ Materials to Avoid:
Lime, acids, Prolonged contact with aluminum, brass, bronze, copper, lead, tin, zinc or other alkali sensitive metals or alloys

Hazardous Decomposition Products: Potassium oxides, oxides of carbon. Heating above 100 °C may cause dangerous levels of carbon dioxide gas to be present in the atmosphere

Hazardous Polymerization: Will not occur.

Section 11 : TOXICOLOGICAL INFORMATION

PRODUCT TOXICITY DATA: POTASSIUM BICARBONATE (ANHYDROUS ALL GRADES

LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
2064 mg/kg oral-rat LD50	>2000 gm/kg skin-rabbit LD50	> 4.88 mg/L (4.5 hr - Rat)

COMPONENT TOXICITY DATA:

Component	LD50 Oral:	LD50 Dermal:	LC50 Inhalation:
Potassium Bicarbonate 298-14-6	No data	No data	No data
Potassium Carbonate 584-08-7	1870 mg/kg (Rat)		

POTENTIAL HEALTH EFFECTS:

Eye contact: May cause eye irritation.

Skin contact: May cause mild skin irritation.

Inhalation: May cause respiratory tract irritation.

Ingestion: No known effects.

Chronic Effects: No chronic effects are known.

SIGNS AND SYMPTOMS OF EXPOSURE:
Listed below.

Inhalation (Breathing): Respiratory Irritation: Upper airway irritation, may cause cough, redness of mouth and upper airways.

Skin: Skin Irritation: Exposure to skin may cause redness, or irritation.
Eye: Eye Irritation: Eye exposure may cause irritation, and redness to the eye lids, conjunctiva.
Ingestion (Swallowing): No effects identified.

ACUTE TOXICITY:
This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction.

Interaction with Other Chemicals Which Enhance Toxicity: None known

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GHS HEALTH HAZARDS:

GHS: ACUTE TOXICITY - ORAL: Not classified as acutely toxic for oral exposure.

GHS: ACUTE TOXICITY - DERMAL: Not classified as acutely toxic for dermal exposure

GHS: ACUTE TOXICITY - INHALATION: Category 4 - Harmful if inhaled.

GHS: CONTACT HAZARD – SKIN: Category 3 - Causes mild skin irritation

GHS: CONTACT HAZARD - EYE: Category 2B - Causes eye irritation

GHS: SENSITIZATION HAZARD: Not classified as a skin sensitizer per GHS criteria. This material when applied to the skin of guinea pigs did not elicit any dermal sensitization reaction.

GHS: CARCINOGENICITY: This product is not classified as a carcinogen by NTP, IARC or OSHA.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Category 3 - Respiratory Tract Irritation

Section 12: ECOLOGICAL INFORMATION

ECOTOXICITY DATA:

Fish Toxicity:
1500 mg/L 96 hour(s) LC50 Bluegill sunfish (practically nontoxic); 1300 mg/L 96 hour(s) LC50 Rainbow trout (practically nontoxic)

Invertebrate Toxicity:
1200 mg/L 48 hour(s) EC50 Daphnia magna (practically nontoxic)

FATE AND TRANSPORT:

BIODEGRADATION: This material is inorganic and not subject to biodegradation.

PERSISTENCE: This material is believed not to persist in the environment.

BIOCONCENTRATION: This material is believed not to bioaccumulate.

MOBILITY IN SOIL: No data available.

Section 13: DISPOSAL CONSIDERATIONS

Waste from material:
Reuse or reprocess, if possible. Dispose in accordance with all applicable regulations.

Container Management:
Dispose of container in accordance with applicable local, regional, national, and/or international regulations. Container rinsate must be disposed of in compliance with applicable regulations.

Section 14: TRANSPORT INFORMATION

LAND TRANSPORT

U.S. DOT 49 CFR 172.101:

Status: Not regulated

CANADIAN TRANSPORTATION OF DANGEROUS GOODS: Status:

Not regulated

MARITIME TRANSPORT (IMO / IMDG) Not regulated

Status - IMO / IMDG: Not Regulated

Section 15: REGULATORY INFORMATION

U.S. REGULATIONS

OSHA REGULATORY STATUS:
This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.

SARA EHS Chemical (40 CFR 355.30) Not regulated

EPCRA SECTIONS 311/312 HAZARD CATEGORIES (40 CFR 370.10): None

EPCRA SECTION 313 (40 CFR 372.65): Not regulated.

OSHA PROCESS SAFETY (PSM) (29 CFR 1910.119): Not regulated

NATIONAL INVENTORY STATUS

U.S. INVENTORY STATUS: Toxic Substance Control Act (TSCA): All components are listed or exempt.

TSCA 12(b): This product is not subject to export notification.

Canadian Chemical Inventory: All components of this product are listed on either the DSL or the NDSL.

STATE REGULATIONS

There are no applicable state regulations for this product or its components.

CANADIAN REGULATIONS
All components of this product are listed on either the DSL or the NDSL.

WHMIS - Classifications of Substances:

- Not regulated

Section 16: OTHER INFORMATION

Prepared by: Church & Dwight Co., Inc. **Date:** 11-May-2015

HMIS: (SCALE 0-4) (Rated using National Paint & Coatings Association HMIS: Rating Instructions, 2nd Edition)

Health Rating: 1 **Flammability Rating:** 0 **Reactivity Rating:** 0

NFPA 704 - Hazard Identification Ratings (SCALE 0-4)
Not classified as hazardous according to the National Fire Protection Association (NFPA) system.

This Product Safety Data Sheet is offered solely for your information, consideration and investigation. Church & Dwight Co., Inc. provides no warranties; either expressed or implied, and assumes no responsibility for the accuracy or completeness of data contained herein. Church & Dwight Co., Inc. urges persons receiving this information to make their own determination as to the information suitability for their particular application.

End of Safety Data Sheet