

1. Identification

Product identifier Manni-Plex K
Other means of identification
Product code 28136
Recommended use Agriculture / Horticulture - Potassium Solution - Refer to Product Label
Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information**Manufacturer**

Company name Brandt Consolidated, Inc.
Address 2935 South Koke Mill Road
Springfield, IL 62711
United States
Telephone Corporate Office 1-217-547-5800
Website www.brandt.co
E-mail msds@brandt.co
Contact person EH&S / Regulatory Department
Emergency phone number Not available.
CHEMTREC (24 hours):
USA, Canada, Puerto Rico 1-800-424-3900
Virgin Islands 1-800-424-3900
International Maritime +1 (703) 527-3887

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards Acute toxicity, oral Category 4
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Environmental hazards Hazardous to the aquatic environment, acute hazard Category 3
OSHA defined hazards Not classified.

Label elements

Signal word Danger
Hazard statement Harmful if swallowed. Causes severe skin burns and eye damage. Causes serious eye damage.
Precautionary statement
Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Response If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Wash contaminated clothing before reuse.
Storage Store locked up.
Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC) None known.
Supplemental information Not applicable.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|------------------------------------------|--------------------------|------------|------|
| Potassium Carbonate | | 584-08-7 | 33.5 |
| Other components below reportable levels | | | 66.5 |

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

| | |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhalation | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician or poison control center immediately. |
| Skin contact | Take off immediately all contaminated clothing. Rinse skin with water/shower. Chemical burns must be treated by a physician. Call a physician or poison control center immediately. For minor skin contact, avoid spreading material on unaffected skin. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Continue rinsing. Remove contact lenses, if present and easy to do. Call a physician or poison control center immediately. |
| Ingestion | Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. |
| Most important symptoms/effects, acute and delayed | Corrosive effects. May cause temporary blindness and severe eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim warm. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed. |
| General information | Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Wash contaminated clothing before reuse. |

5. Fire-fighting measures

| | |
|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Self-contained breathing apparatus and full protective clothing must be worn in case of fire. |
| Fire-fighting equipment/instructions | Move containers from fire area if you can do so without risk. |
| Specific methods | Move container from fire area if it can be done without risk. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

| | |
|----------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Personal precautions, protective equipment and emergency procedures | Keep people away from and upwind of spill/leak. Keep out of low areas. Keep unnecessary personnel away. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Stop the flow of material, if this is without risk. Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills in original containers for re-use. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

Precautions for safe handling

Do not breathe mist or vapor. Do not get this material in contact with eyes. Do not get this material in contact with skin. Do not taste or swallow. Do not get this material on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. When using, do not eat, drink or smoke. Observe good industrial hygiene practices. Wash hands thoroughly after handling.

Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

No exposure limits noted for ingredient(s).

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Provide eyewash station.

Individual protection measures, such as personal protective equipment

Eye/face protection

Wear eye/face protection. Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection

Wear protective gloves.

Other

Wear appropriate chemical resistant clothing. It may provide little or no thermal protection.

Respiratory protection

Wear suitable respiratory protection.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using, do not eat, drink or smoke. Do not get this material on clothing. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Liquid.

Physical state

Liquid.

Form

Liquid.

Color

Colourless to light yellow.

Odor

None.

Odor threshold

Not available.

pH

11 - 13

Salt-Out / Crystallization Temp

< 32 °F (< 0 °C)

Melting point/freezing point

Not available.

Initial boiling point and boiling range

> 212 °F (> 100 °C)

Flash point

Not available.

Evaporation rate

Not available.

Flammability (solid, gas)

Not available.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

Not available.

Flammability limit - upper (%)

Not available.

Explosive limit - lower (%)

Not available.

Explosive limit - upper (%)

Not available.

Vapor pressure

0.00001 hPa estimated

Vapor density

Not available.

Relative density

Not available.

Solubility(ies)

Solubility (water)

100 %

| | |
|------------------------------------------------|-------------------------------|
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Density | 1.30 - 1.36 g/cm ³ |
| Percent volatile | 59.5 % estimated |
| pH in aqueous solution | 9 - 11 (1% Solution) |
| Pounds per gallon | 11.1 (typical) |
| Shelf life | > 2 years (typical) |

10. Stability and reactivity

| | |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerization does not occur. |
| Conditions to avoid | Reacts violently with strong acids. This product may react with oxidizing agents. Do not mix with other chemicals. |
| Incompatible materials | Oxidizing agents. Acids. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|-----------------------------------------------------|
| Ingestion | Causes digestive tract burns. Harmful if swallowed. |
| Inhalation | May cause irritation to the respiratory system. |
| Skin contact | Causes severe skin burns. |
| Eye contact | Causes severe eye burns. Causes serious eye damage. |

Symptoms related to the physical, chemical and toxicological characteristics Burning pain and severe corrosive skin damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

| Product | Species | Test Results |
|------------------------------------|---------|---------------------------|
| Manni-Plex K (CAS Mixture) | | |
| Acute | | |
| <i>Oral</i> | | |
| LD50 | Mouse | 7446.9712 mg/kg estimated |
| | Rat | 5582.0894 mg/kg estimated |
| Components | | |
| Potassium Carbonate (CAS 584-08-7) | | |
| Acute | | |
| <i>Oral</i> | | |
| LD50 | Mouse | 2570 mg/kg |
| | Rat | 1870 mg/kg |

* Estimates for product may be based on additional component data not shown.

| | |
|------------------------------------------|-----------------------------------------------------|
| Skin corrosion/irritation | Causes severe skin burns and eye damage. |
| Serious eye damage/eye irritation | Causes severe eye burns. Causes serious eye damage. |
| Respiratory or skin sensitization | |
| Respiratory sensitization | Not available. |

| | |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|
| Skin sensitization | Not available. |
| Germ cell mutagenicity | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |
| Carcinogenicity | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA. |
| OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050) | |
| | Not listed. |
| Reproductive toxicity | Not available. |
| Specific target organ toxicity - single exposure | Not available. |
| Specific target organ toxicity - repeated exposure | Not available. |
| Aspiration hazard | Not available. |

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | Test Results |
|----------------------------|---------|--------------------------------|
| Manni-Plex K (CAS Mixture) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Crustacea | EC50 | Daphnia |
| | | 641.791 mg/l, 48 hr estimated |
| Fish | LC50 | Fish |
| | | 101.4925 mg/l, 96 hr estimated |

* Estimates for product may be based on additional component data not shown.

| | |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability | No data is available on the degradability of this product. |
| Bioaccumulative potential | Not available. |
| Mobility in soil | Not available. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

| | |
|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. |

14. Transport information

DOT

Basic shipping requirements:

| | |
|-----------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| UN number | UN3266 |
| Proper shipping name | Corrosive liquid, basic, inorganic, n.o.s. (Potassium Carbonate) |
| Hazard class | 8 |
| Packing group | III |
| Special precautions | Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling. |

Additional information:

| | |
|-----------------------------|--------------------|
| Special provisions | IB3, T7, TP1, TP28 |
| Packaging exceptions | 154 |
| Packaging non bulk | 203 |

Packaging bulk 241

IATA

UN number UN3266

UN proper shipping name Corrosive liquid, basic, inorganic, n.o.s. (Potassium Carbonate)

Transport hazard class(es)

Class 8

Subsidiary risk -

Label(s) 8

Packing group III

Environmental hazards No.

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Forbidden.

Cargo aircraft only Forbidden.

IMDG

UN number UN3266

UN proper shipping name CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Potassium Carbonate)

Transport hazard class(es)

Class 8

Subsidiary risk -

Packing group III

Environmental hazards

Marine pollutant No.

EmS F-A, S-B

Special precautions for user Read safety instructions, SDS and emergency procedures before handling. Read safety instructions, SDS and emergency procedures before handling.

DOT



IATA; IMDG



DOT



IATA; IMDG



15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical No

SARA 313 (TRI reporting)

Not regulated.

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. Massachusetts RTK - Substance List

Not regulated.

US. New Jersey Worker and Community Right-to-Know Act

Not listed.

US. Pennsylvania Worker and Community Right-to-Know Law

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|------------------------------------------------------------------------|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | Yes |

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 03-12-2014**Revision date** 03-06-2015**Version #** 02

Disclaimer While the information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. No warranties of any kind, either expressed or implied, including warranties of merchantability or fitness for a particular purpose, are made regarding products described or information set forth, or that the products, or information may be used without infringing the intellectual property rights of others. In no case shall the information provided be considered a part of our terms and conditions of sale. Further, you expressly understand and agree that the information furnished by our company hereunder are given gratis and we assume no obligation or liability for the information given or results obtained, all such being given and accepted at your risk.

Revision Information Physical & Chemical Properties: Multiple Properties
Transport Information: Proper Shipping Name/Packing Group