



Rainbow® Plant Food 14-4-14

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date: 12/19/2024 Supersedes: 2/24/2022 Version: 1.8

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Rainbow® Plant Food 14-4-14
Product code : I000039; I000050; I000071; I000163

1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fertilizer
Recommended use : Fertilizers

1.3. Supplier

Rainbow Fertilizer LLC, a division of TIMAC AGRO USA, Inc.
1011 Oak Avenue
Americus, GA 31709, Georgia 31719
USA
T 1-800-763-0334
www.rainbowplantfood.com

1.4. Emergency telephone number

Country/Area	Organization/Company	Address	Emergency number	Comment
Americas	3E		+1-760-476-3962 (Access code : 333021)	(24/7)
USA	USA POISON CONTROL CENTER (24h/7d)		1-800-222-1222	

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

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3.2. Mixtures

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
Potassium chloride		CAS-No.: 7447-40-7	10 – 25	Not classified
Ammonium nitrate		CAS-No.: 6484-52-2	1 – 5	Ox. Sol. 3, H272 Eye Irrit. 2, H319
Monoammonium phosphate		CAS-No.: 7722-76-1	1 – 5	Skin Irrit. 2, H315 Eye Irrit. 2B, H320
Iron oxide		CAS-No.: 1309-37-1	1 – 5	Not classified

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general	: If you feel unwell, seek medical advice.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Seek medical attention if ill effect develops.
First-aid measures after skin contact	: If case of redness or irritation, call a doctor. Wash skin with plenty of water. Take off contaminated clothing.
First-aid measures after eye contact	: 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.
First-aid measures after ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting without medical advice. Seek medical attention if ill effect develops.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: water, carbon dioxide (CO ₂), powder and foam. Use extinguishing media appropriate for surrounding fire. Water spray. Dry powder. Foam.
Unsuitable extinguishing media	: None known.

5.2. Specific hazards arising from the chemical

Fire hazard	: Not flammable. Non oxidizing material.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Thermal decomposition generates : fume.

5.3. Special protective equipment and precautions for fire-fighters

Precautionary measures fire	: Evacuate area. Eliminate all ignition sources if safe to do so.
Firefighting instructions	: Contain the extinguishing fluids by bunding. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Complete protective clothing. EN 469. Self-contained breathing apparatus.

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Other information : Relevant water authorities should be notified of any large spillage to water course or drain.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Evacuate area. Notify authorities if product enters sewers or public waters.

6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment.

Emergency procedures : Do not breathe dust. Mechanically ventilate the spillage area. Only qualified personnel equipped with suitable protective equipment may intervene.

6.1.2. For emergency responders

Protective equipment : For further information refer to section 8: "Exposure controls/personal protection".

Emergency procedures : Ventilate area. Dike and contain spill. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product. Minimize generation of dust. Gather the product and place it in a spare container that has been suitably labeled.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Do not breathe dust. Avoid contact with skin and eyes.

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Always wash hands after handling the product. Do not eat, drink or smoke when using this product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Store in dry, cool, well-ventilated area. Protect from moisture. Keep out of reach of children.

Incompatible products : Refer to the detailed list of incompatible materials in section 10 Stability/Reactivity.

Storage temperature : Store at ambient temperature

Information on mixed storage : Keep away from food, drink and animal feeding stuffs.

Special rules on packaging : Store in a closed container.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

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Potassium chloride (7447-40-7)	
USA - OSHA - Occupational Exposure Limits	
Local name	Total Dust (Inert or Nuisance Dust)
OSHA PEL TWA	10 mg/m ³ (dust)
	50 mppcf
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts

Ammonium nitrate (6484-52-2)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	25 ppm Ammonia
OSHA PEL STEL	35 ppm Ammonia
OSHA PEL (Ceiling)	25 ppm Ammonia
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	25 ppm Ammonia
NIOSH REL (STEL)	35 ppm Ammonia
NIOSH REL (Ceiling)	25 ppm Ammonia

Iron oxide (1309-37-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Iron oxide (Fe ₂ O ₃)
ACGIH OEL TWA	5 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2024
USA - OSHA - Occupational Exposure Limits	
Local name	Iron oxide fume
OSHA PEL TWA	10 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station. Local exhaust and general ventilation must be adequate to meet exposure standards.
Environmental exposure controls	: Assure that emissions are compliant with all applicable air pollution control regulations. Comply with applicable regulations. Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:
Protective gloves
Eye protection:
Safety glasses with side guards should be worn to prevent injury from airborne particles and/or other eye contact with this product. Safety glasses

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Type	Field of application	Characteristics
Safety goggles	Dust	With side shields
Skin and body protection:		
Protective clothing		
Type		
Gloves		
Respiratory protection:		
Where excessive dust may result, wear approved mask		
Device	Filter type	Condition
Dust mask	Type P2	Dust protection

Personal protective equipment symbol(s):



Other information:

See Heading 7 : 7.1. Precautions for safe handling.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Granulate.
Color	: Gray
Odor	: Odorless
Odor threshold	: No data available
pH	: 6
pH solution concentration	: 10 %
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: In case of excessive dust production : Dust may form flammable and explosive mixture with air.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: Soluble.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: Product is not explosive.
Oxidizing properties	: Non oxidizing material.

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under use and storage conditions as recommended in section 7.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. In case of fire: See Heading 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Additional information	: No experimental study on the product is available. The information given is based on our knowledge of the components and the classification of the product is determined by calculation

Potassium chloride (7447-40-7)	
LD50 oral rat	2600 mg/kg body weight Safety Data Sheet Supplier
ATE US (oral)	2600 mg/kg body weight

Ammonium nitrate (6484-52-2)	
LD50 oral rat	2950 mg/kg (OECD 401 method)
LD50 dermal rat	> 5000 mg/kg (OECD 402 method)
LC50 Inhalation - Rat	> 88.8 mg/m ³

Monoammonium phosphate (7722-76-1)	
LD50 oral rat	> 2000 mg/kg (OECD 425 method)
LD50 dermal rat	> 5000 mg/kg (OECD 402 method)
LC50 Inhalation - Rat	> 5 mg/l (OECD Guideline 403 with diammonium hydrogenorthophosphate; EPA with calcium bis(dihydrogenorthophosphate))

Skin corrosion/irritation	: Not classified pH: 6
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Ammonium nitrate (6484-52-2)	
pH	4.6 – 7.6 95 g/l

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Monoammonium phosphate (7722-76-1)	
pH	3 – 5
Serious eye damage/irritation	: Not classified pH: 6
Ammonium nitrate (6484-52-2)	
pH	4.6 – 7.6 95 g/l
Monoammonium phosphate (7722-76-1)	
pH	3 – 5
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Iron oxide (1309-37-1)	
IARC group	3 - Not classifiable
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Ammonium nitrate (6484-52-2)	
NOAEL (subacute,oral,animal/male,28 days)	≥ 1500 mg/kg body weight rat - (OECD 422 method)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Viscosity, kinematic	: Not applicable
Monoammonium phosphate (7722-76-1)	
Viscosity, kinematic	Not applicable

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - water	: Do not allow large quantities, as are, to spread into the environment. Do not discharge into drains or rivers.

Potassium chloride (7447-40-7)	
LC50 - Fish [1]	96h 2010 mg/l <i>Lepomis macrochirus</i>
EC50 - Crustacea [2]	337 – 825 mg/l
<tx	_T_00453> : <tx:_SDS> <tx:_T_02045>
Ammonium nitrate (6484-52-2)	
LC50 - Fish [1]	447 mg/l <i>Cyprinus carpio</i> (Common carp), 48 Hours
EC50 - Crustacea [1]	490 mg/l 48 Hours, (Results obtained on a similar product)
ErC50 algae	> 1700 mg/l 10 days, (Results obtained on a similar product)
NOEC chronic crustacea	555 mg/l 168 Hours, <i>Bullia Digitalis</i>
Monoammonium phosphate (7722-76-1)	
LC50 - Other aquatic organisms [1]	> 1700 mg/l Single Superphosphate

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Monoammonium phosphate (7722-76-1)

EC50 - Other aquatic organisms [1]	> 100 mg/l (OECD 201 method) Similar substances
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12.2. Persistence and degradability

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Persistence and degradability	Not established.
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Potassium chloride (7447-40-7)

Persistence and degradability	Rapidly degradable
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Ammonium nitrate (6484-52-2)

Persistence and degradability	Not applicable (inorganic substance).
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Iron oxide (1309-37-1)

Persistence and degradability	Rapidly degradable
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Monoammonium phosphate (7722-76-1)

Persistence and degradability	Not established.
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12.3. Bioaccumulative potential

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Bioaccumulative potential	Not established.
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Potassium chloride (7447-40-7)

Partition coefficient n-octanol/water (Log Pow)	Not applicable
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Partition coefficient n-octanol/water (Log Kow)	Not applicable
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Bioaccumulative potential	Low bioaccumulation potential. Data sources : Safety Data Sheet Supplier.
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Ammonium nitrate (6484-52-2)

Bioaccumulative potential	Slightly or not bioaccumulative.
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Monoammonium phosphate (7722-76-1)

Partition coefficient n-octanol/water (Log Pow)	Not applicable
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Partition coefficient n-octanol/water (Log Kow)	Not applicable
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Bioaccumulative potential	Low bioaccumulation potential. Data sources : Safety Data Sheet Supplier.
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12.4. Mobility in soil

Potassium chloride (7447-40-7)

Ecology - soil	Low mobility (soil). Safety Data Sheet Supplier.
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Monoammonium phosphate (7722-76-1)

Ecology - soil	Not applicable. Safety Data Sheet Supplier.
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12.5. Other adverse effects

Other adverse effects	: May cause eutrophication at very low concentration.
Other information	: No other effects known.

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SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Discharging into rivers and drains is forbidden. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.

SECTION 14: Transport information

In accordance with DOT / TMD / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN proper shipping name

Proper Shipping Name (DOT)	: Not regulated
Proper Shipping Name (TDG)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated

14.3. Transport hazard class(es)

DOT

Transport hazard class(es) (DOT)	: Not regulated
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TDG

Transport hazard class(es) (TDG)	: Not regulated
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IMDG

Transport hazard class(es) (IMDG)	: Not regulated
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IATA

Transport hazard class(es) (IATA)	: Not regulated
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14.4. Packing group

Packing group (DOT)	: Not regulated
Packing group (TDG)	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated

14.5. Environmental hazards

Other information	: No supplementary information available.
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14.6. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

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IATA

Not regulated

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

Name	CAS-No.	Listing	Commercial status	Flags
Potassium chloride	7447-40-7	Present	Active	
Ammonium nitrate	6484-52-2	Present	Active	
Iron oxide	1309-37-1	Present	Active	
Monoammonium phosphate	7722-76-1	Present	Active	

15.2. International regulations

CANADA

Potassium chloride (7447-40-7)

Listed on the Canadian DSL (Domestic Substances List)

Ammonium nitrate (6484-52-2)

Listed on the Canadian DSL (Domestic Substances List)

Iron oxide (1309-37-1)

Listed on the Canadian DSL (Domestic Substances List)

Monoammonium phosphate (7722-76-1)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

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Ensure all national/local regulations are observed

Iron oxide (1309-37-1)

Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. US State regulations

No additional information available

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SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 12/19/2024
Data sources : Section 1.2, 8.1, 11 & 12 are based on components' Chemical Safety Report and/or datas from components' supplie.
Training advice : Normal use of this product shall imply use in accordance with the instructions on the packaging.

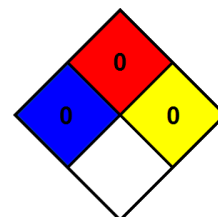
Full text of hazard classes and H-statements	
H272	May intensify fire; oxidizer
H315	Causes skin irritation
H319	Causes serious eye irritation
H320	Causes eye irritation

Abbreviations and acronyms	
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
LC50	Median lethal concentration
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
SDS	Safety Data Sheet
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
STP	Sewage treatment plant
vPvB	Very Persistent and Very Bioaccumulative

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



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Hazard Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 0 Minimal Hazard - Materials that will not burn
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.
- Personal protection : E - Safety glasses, Gloves, Dust respirator

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.