

Super Phosphoric Acid 0-68-0

Safety Data Sheet

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

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Product name : Super Phosphoric Acid 0-68-0
Product code : M12000

1.2. Relevant identified uses of the substance or mixture and uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

JR Simplot Company
P.O. Box 70013
Boise, ID 83707
T 1-208-336-2110

1.4. Emergency telephone number

Emergency number : CHEMTREC 1-800-424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Met. Corr. 1 H290 - May be corrosive to metals
Acute Tox. 4 (Oral) H302 - Harmful if swallowed
Acute Tox. 4 (Dermal) H312 - Harmful in contact with skin
Skin Corr. 1A H314 - Causes severe skin burns and eye damage

Full text of H-statements: see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS05

GHS07

Signal word (GHS-US) : Danger

Hazard statements (GHS-US) : H290 - May be corrosive to metals
H302+H312 - Harmful if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS-US) : P234 - Keep only in original container
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P264 - Wash ... thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301+P312 - If swallowed: Call a poison center/doctor/... if you feel unwell
P301+P330+P331 - If swallowed: rinse mouth. Do NOT induce vomiting
P302+P352 - If on skin: Wash with plenty of water/...
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a poison center/doctor/...
P312 - Call a poison center/doctor/... if you feel unwell
P321 - Specific treatment (see ... on this label)
P330 - Rinse mouth
P362+P364 - Take off contaminated clothing and wash it before reuse
P363 - Wash contaminated clothing before reuse
P390 - Absorb spillage to prevent material damage
P405 - Store locked up
P406 - Store in corrosive resistant container with a resistant inner liner
P501 - Dispose of contents/container to ... specify in accordance with local/regional/national

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regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

| Name | Product identifier | % | GHS-US classification |
|------------------------------------------------------|---------------------|------|------------------------------------------------------------------------------------------------------------------------------|
| phosphoric acid (7664-38-2) | (CAS No) 7664-38-2 | 93.5 | Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Corr. 1B, H314 |
| Proprietary | | 6.5 | Not classified |
| hydrogen fluoride, anhydrous | (CAS No) 7664-39-3 | <= 1 | Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:vapour), H330 Skin Corr. 1A, H314 |
| hexafluorosilicic acid, conc>=10%, aqueous solutions | (CAS No) 16961-83-4 | <= 1 | Skin Corr. 1B, H314 |

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after skin contact : Immediately call a POISON CENTER or doctor/physician. Specific measures (see ... on this label). Wash with plenty of soap and water. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
- First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a POISON CENTER or doctor/physician.

4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Causes severe skin burns and eye damage.
- Symptoms/injuries after skin contact : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
- Symptoms/injuries after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

4.3. Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
- Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

- Reactivity : Thermal decomposition generates : Corrosive vapours.

5.3. Advice for firefighters

- Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
- Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Absorb spillage to prevent material damage.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : May be corrosive to metals.

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapour. Do not breathe dust/fume/gas/mist/vapours/spray. Avoid contact during pregnancy/while nursing.

Safe use of the product : Rail cars and/or containers may off gas flourine. Use appropriate respiratory protection.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash ... thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.

Incompatible products : Strong bases. Strong acids.

Incompatible materials : Sources of ignition. Direct sunlight.

Packaging materials : Store in corrosive resistant/... container with a resistant inner liner.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| hydrogen fluoride, anhydrous (7664-39-3) | | |
|-------------------------------------------------------------------|---------------------------------|-----------------------|
| ACGIH | ACGIH TWA (ppm) | 0.5 ppm |
| ACGIH | ACGIH STEL (ppm) | 0.5 ppm |
| ACGIH | ACGIH Ceiling (ppm) | 2 ppm |
| hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 2.5 mg/m ³ |
| phosphoric acid (7664-38-2) (7664-38-2) | | |
| ACGIH | ACGIH TWA (mg/m ³) | 1 mg/m ³ |
| ACGIH | ACGIH STEL (mg/m ³) | 3 mg/m ³ |

8.2. Exposure controls

Personal protective equipment : Avoid all unnecessary exposure.

Hand protection : Wear protective gloves.

Eye protection : Chemical goggles or face shield.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : Wear appropriate mask.

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Other information : Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state | : Liquid |
| Appearance | : Green, viscous liquid. |
| Colour | : Green |
| Odour | : Odorless when cold; pungent when hot. |
| Odour threshold | : No data available |
| pH | : < 1 |
| Melting point | : No data available |
| Freezing point | : No data available |
| Boiling point | : 132 °C |
| Flash point | : No data available |
| Relative evaporation rate (butylacetate=1) | : No data available |
| Flammability (solid, gas) | : No data available |
| Explosive limits | : No data available |
| Explosive properties | : No data available |
| Oxidising properties | : No data available |
| Vapour pressure | : No data available |
| Relative density | : No data available |
| Relative vapour density at 20 °C | : No data available |
| Solubility | : Water: Solubility in water of component(s) of the mixture : • hydrogen fluoride, anhydrous: Complete • hexafluorosilicic acid, conc>=10%, aqueous solutions: Complete • phosphoric acid (7664-38-2): Complete |
| Log Pow | : No data available |
| Auto-ignition temperature | : No data available |
| Decomposition temperature | : No data available |
| Viscosity | : No data available |
| Viscosity, kinematic | : No data available |
| Viscosity, dynamic | : No data available |

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapours.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Not established.

10.4. Conditions to avoid

Strong Alkalies. Metals other than stainless steel. Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Reacts violently with strong alkalies producing heat. Contact with many metals may result in severe corrosion attack of the metal and liberation of hydrogen gas. Strong acids. Strong bases. metals. May be corrosive to metals.

10.6. Hazardous decomposition products

High temperatures will liberate phosphorus oxides. fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Harmful in contact with skin.

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| Super Phosphoric Acid 0-68-0 | |
|-------------------------------------|---------------------------|
| LD50 oral rat | 1530 mg/kg |
| LD50 dermal rat | 1260 mg/kg |
| ATE US (oral) | 1530.000 mg/kg bodyweight |
| ATE US (dermal) | 1260.000 mg/kg bodyweight |

| hydrogen fluoride, anhydrous (7664-39-3) | |
|-------------------------------------------------|------------------------|
| ATE US (oral) | 5.000 mg/kg bodyweight |
| ATE US (dermal) | 5.000 mg/kg bodyweight |
| ATE US (vapours) | 0.500 mg/l/4h |

| phosphoric acid (7664-38-2) (7664-38-2) | |
|------------------------------------------------|---------------------------|
| LD50 oral rat | 1530 mg/kg (Rat) |
| LD50 dermal rat | >= 1260 mg/kg bodyweight |
| LC50 inhalation rat (mg/l) | >= mg/l/4h |
| ATE US (oral) | 1530.000 mg/kg bodyweight |
| ATE US (dermal) | 1100.000 mg/kg bodyweight |

| | |
|-----------------------------------|------------------------------------------------------------------|
| Skin corrosion/irritation | : Causes severe skin burns and eye damage. pH: < 1 |
| Serious eye damage/irritation | : Not classified pH: < 1 |
| Respiratory or skin sensitisation | : Not classified |
| Germ cell mutagenicity | : Not classified |
| | Based on available data, the classification criteria are not met |
| Carcinogenicity | : Not classified |

| hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4) | |
|-----------------------------------------------------------------------------|----------------------|
| IARC group | 3 - Not classifiable |

| | |
|-----------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Reproductive toxicity | : Not classified Based on available data, the classification criteria are not met |
| Specific target organ toxicity (single exposure) | : Not classified |
| Specific target organ toxicity (repeated exposure) | : Not classified |
| Aspiration hazard | : Not classified |
| Potential adverse human health effects and symptoms | : Based on available data, the classification criteria are not met. Harmful if swallowed. Harmful in contact with skin. |
| Symptoms/injuries after skin contact | : Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin. |
| Symptoms/injuries after ingestion | : Swallowing a small quantity of this material will result in serious health hazard. |

SECTION 12: Ecological information

12.1. Toxicity

| hydrogen fluoride, anhydrous (7664-39-3) | |
|-------------------------------------------------|------------------------------------------------------------------------|
| LC50 fish 1 | 107.5 mg/l (96 h; Salmo gairdneri (Oncorhynchus mykiss); Fluorine ion) |
| EC50 Daphnia 1 | 270 mg/l (48 h; Daphnia magna; Na-salt) |
| LC50 fish 2 | 925 mg/l (Gambusia affinis; Fluorine ion) |
| Threshold limit algae 1 | 95 mg/l (96 h; Scenedesmus subspicatus; Fluorine ion) |
| Threshold limit algae 2 | 249 mg/l (96 h; Scenedesmus quadricauda; Fluorine ion) |

| hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4) | |
|-----------------------------------------------------------------------------|-------------------------------------------------------|
| LC50 fish 1 | > 10 mg/l (96 h; Brachydanio rerio) |
| Threshold limit algae 1 | 10 mg/l (96 h; Scenedesmus quadricauda; Cell numbers) |

| phosphoric acid (7664-38-2) (7664-38-2) | |
|------------------------------------------------|-----------------------------------------|
| LC50 fish 1 | 138 mg/l (96 h; Pisces; Pure substance) |

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| phosphoric acid (7664-38-2) (7664-38-2) | |
|------------------------------------------------|--------------------------------------------------|
| LC50 other aquatic organisms 1 | 240 mg/l (96 h; Protozoa; Pure substance) |
| LC50 fish 2 | 100 - 1000 mg/l (Pisces; Pure substance) |
| LC50 other aquatic organisms 2 | 100 - 1000 mg/l (Pure substance) |
| TLM fish 1 | 138 ppm (24 h; Gambusia affinis; Pure substance) |
| Threshold limit other aquatic organisms 1 | 240 mg/l (96 h; Protozoa; Pure substance) |
| Threshold limit other aquatic organisms 2 | 100 - 1000, Pure substance |

12.2. Persistence and degradability

| Super Phosphoric Acid 0-68-0 | |
|-------------------------------------|------------------|
| Persistence and degradability | Not established. |

| Proprietary | |
|-------------------------------|------------------|
| Persistence and degradability | Not established. |

| hydrogen fluoride, anhydrous (7664-39-3) | |
|-------------------------------------------------|----------------------------------------------------|
| Persistence and degradability | Biodegradability: not applicable. Not established. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

| hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4) | |
|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Persistence and degradability | Biodegradability: not applicable. Reacts with water: release of toxic/harmful substances. No (test)data on mobility of the components available. Not established. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

| phosphoric acid (7664-38-2) (7664-38-2) | |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Persistence and degradability | Biodegradability: not applicable. No (test)data on mobility of the components available. Not established. |
| Biochemical oxygen demand (BOD) | Not applicable |
| Chemical oxygen demand (COD) | Not applicable |
| ThOD | Not applicable |
| BOD (% of ThOD) | Not applicable |

12.3. Bioaccumulative potential

| Super Phosphoric Acid 0-68-0 | |
|-------------------------------------|------------------|
| Bioaccumulative potential | Not established. |

| Proprietary | |
|---------------------------|------------------|
| Bioaccumulative potential | Not established. |

| hydrogen fluoride, anhydrous (7664-39-3) | |
|-------------------------------------------------|---------------------------------------------------|
| Log Pow | -1.4 (Experimental value) |
| Bioaccumulative potential | Bioaccumulation: not applicable. Not established. |

| hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4) | |
|-----------------------------------------------------------------------------|---------------------------------------|
| Bioaccumulative potential | Not bioaccumulative. Not established. |

| phosphoric acid (7664-38-2) (7664-38-2) | |
|------------------------------------------------|---------------------------------------------------|
| Log Pow | -0.77 (Estimated value) |
| Bioaccumulative potential | Bioaccumulation: not applicable. Not established. |

12.4. Mobility in soil

No additional information available

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12.5. Other adverse effects

- Effect on the global warming : No known ecological damage caused by this product.
- Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

- Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to ...
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1805 Phosphoric acid solution, 8, III
- UN-No.(DOT) : UN1805
- Proper Shipping Name (DOT) : Phosphoric acid solution
- Transport hazard class(es) (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
- Hazard labels (DOT) : 8 - Corrosive



- Packing group (DOT) : III - Minor Danger
- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 241
- DOT Special Provisions (49 CFR 172.102) : A7 - Steel packagings must be corrosion-resistant or have protection against corrosion.
IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672).
N34 - Aluminum construction materials are not authorized for any part of a packaging which is normally in contact with the hazardous material.
T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)
TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / (1 + a (tr - tf))$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
- DOT Packaging Exceptions (49 CFR 173.xxx) : 154
- DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
- DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 L
- DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
- Other information : No supplementary information available.

TDG

No additional information available

Transport by sea

- UN-No. (IMDG) : 1805
- Proper Shipping Name (IMDG) : PHOSPHORIC ACID SOLUTION
- Class (IMDG) : 8 - Corrosive substances
- Packing group (IMDG) : III - substances presenting low danger

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Air transport

| | |
|-----------------------------|-----------------------------|
| UN-No. (IATA) | : 1805 |
| Proper Shipping Name (IATA) | : Phosphoric acid, solution |
| Class (IATA) | : 8 - Corrosives |
| Packing group (IATA) | : III - Minor Danger |

SECTION 15: Regulatory information

15.1. US Federal regulations

Super Phosphoric Acid 0-68-0

Not listed on the United States TSCA (Toxic Substances Control Act) inventory
Not subject to reporting requirements of the United States SARA Section 313

| | |
|--------------------------------------------------------------|---------|
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 5000 lb |
|--------------------------------------------------------------|---------|

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory except for:

| | | |
|------------------------------|------------------|-------|
| Proprietary | CAS No | 6.5% |
| hydrogen fluoride, anhydrous | CAS No 7664-39-3 | <= 1% |

This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

phosphoric acid (7664-38-2) (7664-38-2)

Not subject to reporting requirements of the United States SARA Section 313

| | |
|--------------------------------------------------------------|---------|
| RQ (Reportable quantity, section 304 of EPA's List of Lists) | 5000 lb |
|--------------------------------------------------------------|---------|

15.2. International regulations

CANADA

No additional information available

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

hexafluorosilicic acid, conc>=10%, aqueous solutions (16961-83-4)

U.S. - New Jersey - Right to Know Hazardous Substance List

phosphoric acid (7664-38-2) (7664-38-2)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Other information : None.

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Full text of H-statements:

| | |
|----------------------------------|-----------------------------------------------|
| Acute Tox. 1 (Dermal) | Acute toxicity (dermal), Category 1 |
| Acute Tox. 2 (Inhalation:vapour) | Acute toxicity (inhalation:vapour) Category 2 |
| Acute Tox. 2 (Oral) | Acute toxicity (oral), Category 2 |
| Acute Tox. 4 (Dermal) | Acute toxicity (dermal), Category 4 |
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| Met. Corr. 1 | Corrosive to metals, Category 1 |
| Skin Corr. 1A | Skin corrosion/irritation, Category 1A |
| Skin Corr. 1B | Skin corrosion/irritation, Category 1B |
| H290 | May be corrosive to metals |
| H300 | Fatal if swallowed |
| H302 | Harmful if swallowed |
| H310 | Fatal in contact with skin |
| H312 | Harmful in contact with skin |
| H314 | Causes severe skin burns and eye damage |
| H330 | Fatal if inhaled |

SDS US (GHS HazCom 2012)

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