

Material Safety Data Sheet

Pierce® NHS-Activated Magnetic Beads

1. Product and company identification

| | | | |
|-------------------------|--|----------------------|--|
| Product name | : Pierce® NHS-Activated Magnetic Beads | | |
| Supplier | : Thermo Fisher Scientific Pierce Biotechnology P.O. Box 117 Rockford, IL 61105 United States 815.968.0747 or 800.874.3723 | Manufacturer | : Thermo Fisher Scientific Pierce Biotechnology P.O. Box 117 Rockford, IL 61105 United States 815.968.0747 or 800.874.3723 |
| Code | : 0088826 0088826S 0088827 1862585 1862640 1902001 | | |
| MSDS # | : 8717 | | |
| Validation date | : 10/1/2012. | | |
| Print date | : 10/1/2012. | | |
| Responsible name | MSDS (Regulatory Specialist) | | |
| | CHEMTREC: 800.424.9300 OUTSIDE US: 703.527.3887 | Material uses | Refer to the instruction booklet for proper and intended use. Otherwise, contact supplier for specific applications. |
| Product type | : Liquid. | | |

2. Hazards identification

Emergency overview

| | |
|-------------------------------|---|
| Physical state | : Liquid. [slurry.] |
| Color | : Brown. |
| Signal word | : WARNING! |
| Hazard statements | : COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN MALES, BASED ON ANIMAL DATA. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES, BASED ON ANIMAL DATA. CONTAINS MATERIAL WHICH MAY CAUSE HERITABLE GENETIC EFFECTS, BASED ON IN VITRO DATA. |
| Precautionary measures | : Do not handle until all safety precautions have been read and understood. Obtain special instructions before use. Do not breathe vapor or mist. Use only with adequate ventilation. Do not eat, drink or smoke when using this product. Avoid contact with eyes, skin and clothing. Avoid prolonged contact with eyes, skin and clothing. Keep away from heat and flame. Keep container tightly closed. Use personal protective equipment as required. Wash thoroughly after handling. |

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1/1:

Pierce® NHS-Activated Magnetic Beads

2. Hazards identification

| | |
|---|---|
| OSHA/HCS status | : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200). |
| Routes of entry | : Dermal contact. Eye contact. Inhalation. Ingestion. |
| Potential acute health effects | |
| Inhalation | : Toxic by inhalation. Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| Ingestion | : No known significant effects or critical hazards. |
| Skin | : Harmful in contact with skin. Moderately irritating to the skin. |
| Eyes | : Moderately irritating to eyes. |
| Potential chronic health effects | |
| Chronic effects | : Contains material that can cause target organ damage. |
| Carcinogenicity | : No known significant effects or critical hazards. |
| Mutagenicity | : Contains material which may cause heritable genetic effects, based on in vitro data. |
| Teratogenicity | : No known significant effects or critical hazards. |
| Developmental effects | : No known significant effects or critical hazards. |
| Fertility effects | : Contains material which may impair male fertility, based on animal data. Contains material which may impair female fertility, based on animal data. |
| Target organs | : Contains material which causes damage to the following organs: kidneys. Contains material which may cause damage to the following organs: the nervous system, the reproductive system, liver, mucous membranes, skin, , bone marrow, central nervous system (CNS), eye, lens or cornea, testes. |
| Over-exposure signs/symptoms | |
| Inhalation | : Adverse symptoms may include the following: respiratory tract irritation coughing reduced fetal weight increase in fetal deaths skeletal malformations |
| Ingestion | : Adverse symptoms may include the following: reduced fetal weight increase in fetal deaths skeletal malformations |
| Skin | : Adverse symptoms may include the following: irritation redness reduced fetal weight increase in fetal deaths skeletal malformations |
| Eyes | : Adverse symptoms may include the following: irritation watering redness reduced fetal weight increase in fetal deaths skeletal malformations |
| Medical conditions aggravated by over-exposure | : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product. |

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2/1:

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2. Hazards identification

See toxicological information (Section 11)

3. Composition/information on ingredients

United States

| Name | CAS number | % |
|-----------------------|------------|----------|
| N,N-dimethylacetamide | 127-19-5 | 98 - 100 |

Canada

| Name | CAS number | % |
|-----------------------|------------|----------|
| N,N-dimethylacetamide | 127-19-5 | 98 - 100 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.
- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

5. Fire-fighting measures

Flammability of the product : Combustible liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion.

Extinguishing media

Suitable : Use dry chemical, CO₂, water spray (fog) or foam.

Not suitable : Do not use water jet.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

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3/1:

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5. Fire-fighting measures

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

7. Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

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4/1:

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7. Handling and storage

Storage : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8. Exposure controls/personal protection

United States

| Ingredient | Exposure limits |
|-----------------------|--|
| N,N-dimethylacetamide | <p>ACGIH TLV (United States, 2/2010). Absorbed through skin. TWA: 36 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p> <p>NIOSH REL (United States, 6/2009). Absorbed through skin. TWA: 35 mg/m³ 10 hour(s). TWA: 10 ppm 10 hour(s).</p> <p>OSHA PEL (United States, 6/2010). Absorbed through skin. TWA: 35 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p> <p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 35 mg/m³ 8 hour(s). TWA: 10 ppm 8 hour(s).</p> |

Canada

| Occupational exposure limits | | TWA (8 hours) | | | STEL (15 mins) | | | Ceiling | | | |
|------------------------------|-----------------|---------------|-------------------|-------|----------------|-------------------|-------|---------|-------------------|-------|-----------|
| Ingredient | List name | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | ppm | mg/m ³ | Other | Notations |
| N,N-dimethylacetamide | US ACGIH 2/2010 | 10 | 36 | - | - | - | - | - | - | - | [1] |
| | AB 4/2009 | 10 | 36 | - | - | - | - | - | - | - | [1] |
| | BC 9/2010 | 10 | - | - | - | - | - | - | - | - | [1] |
| | ON 7/2010 | 10 | 36 | - | - | - | - | - | - | - | [1] |
| | QC 6/2008 | 10 | 36 | - | - | - | - | - | - | - | [1] |

[1]Absorbed through skin.

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

10/1/2012.

5/1:

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8. Exposure controls/personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9. Physical and chemical properties

Physical state : Liquid. [slurry.]

Color : Brown.

pH : 6 to 8

Dispersibility properties : Very slightly dispersible in the following materials: cold water and hot water.

Solubility : Insoluble in the following materials: cold water and hot water.

10. Stability and reactivity

Chemical stability : The product is stable.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

Incompatible materials : Reactive or incompatible with the following materials: oxidizing materials

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

11. Toxicological information

United States

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|------------|----------|
| N,N-dimethylacetamide | LC50 Inhalation Vapor | Rat | 8,81 mg/L | 1 hours |
| | LC50 Inhalation Vapor | Rat | 2475 ppm | 1 hours |
| | LD50 Dermal | Rabbit | 2240 mg/kg | - |
| | LD50 Oral | Rat | 4300 mg/kg | - |

Conclusion/Summary : Not available.

Chronic toxicity

10/1/2012.

6/1:

11. Toxicological information

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|------------|----------|
| N,N-dimethylacetamide | Sub-chronic LD50 Oral | Rat | 4300 mg/kg | - |

Conclusion/Summary : Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|------------------------|-------------|
| N,N-dimethylacetamide | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 10 milligrams | - |

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|-------------------------|-------|------|-----|-------|-----|------|
| N,N-dimethylacetamide | A4 | - | - | None. | - | - |

Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|-------------------------|---|---|------------------------------------|
| N,N-dimethylacetamide | OECD DNA Inhibition OECD Sister Chromatid Exchange | Subject: Bacteria Subject: Mammalian-Animal Subject: Mammalian-Animal | Negative Equivocal Equivocal |

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

| Product/ingredient name | Maternal toxicity | Fertility | Development toxin | Species | Dose | Exposure |
|-------------------------|-------------------|-----------|-------------------|-----------------|-----------------------------|----------|
| N,N-dimethylacetamide | - | Positive | Positive | Rat - Female | Oral: 5600 mg/kg | - |
| | - | Positive | - | Rat - Female | Intraperitoneal: 2 mg/kg | - |
| | - | - | - | Rat - Male | Inhalation: 288 ppm | 6 hours |
| | - | - | Positive | Rat - Female | Dermal: 2400 mg/kg | - |
| | - | - | - | Rat - Female | Inhalation: 281 ppm | 6 hours |
| | - | - | - | Rat - Female | Inhalation: 300 ppm | 6 hours |
| | - | - | - | Rat - Female | Inhalation: 282 ppm | 6 hours |
| | - | Positive | Positive | Rabbit - Female | Oral: | - |

10/1/2012.

7/1.

11. Toxicological information

| | | | | | | |
|--|--|--|--|--|------------|--|
| | | | | | 3900 mg/kg | |
|--|--|--|--|--|------------|--|

Conclusion/Summary : Not available.

Canada

Acute toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|------------|----------|
| N,N-dimethylacetamide | LC50 Inhalation Vapor | Rat | 8.81 mg/L | 1 hours |
| | LC50 Inhalation Vapor | Rat | 2475 ppm | 1 hours |
| | LD50 Dermal | Rabbit | 2240 mg/kg | - |
| | LD50 Oral | Rat | 4300 mg/kg | - |

Conclusion/Summary : Not available.

Chronic toxicity

| Product/ingredient name | Result | Species | Dose | Exposure |
|-------------------------|-----------------------|---------|------------|----------|
| N,N-dimethylacetamide | Sub-chronic LD50 Oral | Rat | 4300 mg/kg | - |

Conclusion/Summary : Not available.

Irritation/Corrosion

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|------------------------|-------------|
| N,N-dimethylacetamide | Eyes - Mild irritant | Rabbit | - | 100 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 10 milligrams | - |

Conclusion/Summary : Not available.

Sensitizer

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Classification

| Product/ingredient name | ACGIH | IARC | EPA | NIOSH | NTP | OSHA |
|-------------------------|-------|------|-----|-------|-----|------|
| N,N-dimethylacetamide | A4 | - | - | None. | - | - |

Mutagenicity

| Product/ingredient name | Test | Experiment | Result |
|-------------------------|---|---|------------------------------------|
| N,N-dimethylacetamide | OECD DNA Inhibition OECD Sister Chromatid Exchange | Subject: Bacteria Subject: Mammalian-Animal Subject: Mammalian-Animal | Negative Equivocal Equivocal |

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

10/1/2012.

8/1.

11. Toxicological information

| Product/ingredient name | Maternal toxicity | Fertility | Development toxin | Species | Dose | Exposure |
|-------------------------|-------------------|-----------|-------------------|-----------------|-----------------------------|----------|
| N,N-dimethylacetamide | - | Positive | Positive | Rat - Female | Oral: 5600 mg/kg | - |
| | - | - | - | Rat - Male | Inhalation: 288 ppm | 6 hours |
| | - | - | - | Rat - Female | Inhalation: 281 ppm | 6 hours |
| | - | - | Positive | Rat - Female | Dermal: 2400 mg/kg | - |
| | - | - | - | Rat - Female | Inhalation: 300 ppm | 6 hours |
| | - | - | - | Rat - Female | Inhalation: 282 ppm | 6 hours |
| | - | Positive | - | Rat - Female | Intraperitoneal: 2 mg/kg | - |
| | - | Positive | Positive | Rabbit - Female | Oral: 3900 mg/kg | - |

Conclusion/Summary : Not available.

12. Ecological information

Ecotoxicity : No known significant effects or critical hazards.

United States**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|----------------------------------|---------------------------------|----------|
| N,N-dimethylacetamide | Acute EC50 >500 mg/l Fresh water | Algae - Desmodesmus subspicatus | 72 hours |
| | Acute EC50 >500 mg/l | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 >500 mg/l Fresh water | Fish - Leuciscus idus | 96 hours |

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

Canada**Aquatic ecotoxicity**

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|----------------------------------|---------------------------------|----------|
| N,N-dimethylacetamide | Acute EC50 >500 mg/l Fresh water | Algae - Desmodesmus subspicatus | 72 hours |
| | Acute EC50 >500 mg/l | Daphnia - Daphnia magna | 48 hours |
| | Acute LC50 >500 mg/l Fresh water | Fish - Leuciscus idus | 96 hours |

Conclusion/Summary : Not available.

Persistence/degradability

Conclusion/Summary : Not available.

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9/1.

13. Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

14. Transport information

| Regulatory information | UN number | Proper shipping name | Classes | PG* |
|---------------------------|----------------|---|---------------------|-----|
| DOT Classification | NA1993 | Combustible liquid, n. o.s. (N,N-dimethylacetamide) | Combustible liquid. | III |
| IATA-DGR Class | Not regulated. | - | - | - |

PG* : Packing group

15. Regulatory information**United States**

HCS Classification : Combustible liquid
Toxic material
Irritating material
Target organ effects

U.S. Federal regulations : **TSCA 4(a) final test rules:** N,N-dimethylacetamide

TSCA 8(a) PAIR: N,N-dimethylacetamide

TSCA 8(a) IUR Exempt/Partial exemption: Not determined

United States inventory (TSCA 8b): All components are listed or exempted.

TSCA 12(b) annual export notification: N,N-dimethylacetamide

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: N,N-dimethylacetamide

SARA 311/312 MSDS distribution - chemical inventory - hazard identification: N,N-dimethylacetamide: Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard

Clean Air Act Section 112 : Not listed
(b) Hazardous Air Pollutants (HAPs)

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15. Regulatory information

Clean Air Act Section 602 : Not listed

Class I Substances

Clean Air Act Section 602 : Not listed

Class II Substances

DEA List I Chemicals : Not listed

(Precursor Chemicals)

DEA List II Chemicals : Not listed

(Essential Chemicals)

State regulations

Massachusetts : The following components are listed: DIMETHYL ACETAMIDE

New York : None of the components are listed.

New Jersey : The following components are listed: DIMETHYL ACETAMIDE; ACETAMIDE, N,N-DIMETHYL-

Pennsylvania : The following components are listed: ACETAMIDE, N,N-DIMETHYL-

California Prop. 65

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

| Ingredient name | Cancer | Reproductive | No significant risk level | Maximum acceptable dosage level |
|-----------------------|--------|--------------|---------------------------|---------------------------------|
| N,N-dimethylacetamide | No. | Yes. | No. | No. |

United States inventory (TSCA 8b) : All components are listed or exempted.

Canada

WHMIS (Canada) : Class D-2B: Material causing other toxic effects (Toxic).

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.**International regulations**

International lists : **Australia inventory (AICS):** All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Japan inventory: All components are listed or exempted.
Korea inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.

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11/1:

16. Other information

Label requirements : COMBUSTIBLE LIQUID AND VAPOR. HARMFUL IF INHALED. MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN MALES, BASED ON ANIMAL DATA. POSSIBLE REPRODUCTIVE HAZARD - CONTAINS MATERIAL WHICH MAY CAUSE ADVERSE REPRODUCTIVE EFFECTS IN FEMALES, BASED ON ANIMAL DATA. CONTAINS MATERIAL WHICH MAY CAUSE HERITABLE GENETIC EFFECTS, BASED ON IN VITRO DATA.

Hazardous Material Information System (U.S.A.) :

| | |
|------------------|---|
| Health | 3 |
| Flammability | 2 |
| Physical hazards | 0 |

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.) :



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Date of previous issue : 1/27/2012.

Version : 1.04

Prepared by : MSDS (Regulatory Specialist)

Indicates information that has changed from previously issued version.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

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12/1: