

SAFETY DATA SHEET

1. Identification

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|-------------------------------|------------------------------------|--|
| Product identifier | KD620D KNOCK DOWN Equine Fly Spray | |
| Other means of identification | | |
| Product code | KD620D, KD621D | |
| Recommended use | Pesticide | |
| Recommended restrictions | None known. | |

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

| | | |
|------------------------|--------------------------------------------------------|----------------------------------|
| Company name | KUUS INC. | |
| Address | 450 TAPSCOTT ROAD SCARBOROUGH, ON M1B 1Y4 Canada | |
| Telephone | General Assistance | 1-416-298-7724 |
| E-mail | Not available. | |
| Emergency phone number | Canutec | 1-888-226-8832 1-613-996-6666 |

2. Hazard(s) identification

| | | |
|------------------|---------------------|------------|
| Physical hazards | Flammable liquids | Category 3 |
| Health hazards | Sensitization, skin | Category 1 |
| Label elements | | |



| | |
|------------------|------------------------------------------------------------------|
| Signal word | None. |
| Hazard statement | Flammable liquid and vapor. May cause an allergic skin reaction. |

Precautionary statement

Prevention

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist or vapor. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Response

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

Storage

Store in a well-ventilated place. Keep cool.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

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| Environmental hazards | Hazardous to the aquatic environment, acute hazard | Category 1 |
| | Hazardous to the aquatic environment, long-term hazard | Category 1 |

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| Other hazards | None known. |
| Supplemental information | None. |

3. Composition/information on ingredients

| Mixtures | | | |
|---------------------------------------------|--------------------------|------------|----------|
| Chemical name | Common name and synonyms | CAS number | % |
| Piperonyl Butoxide | | 51-03-6 | 0.01 - 1 |
| Pyrethrin | | 8003-34-7 | 0.01 - 1 |
| Permethrin | | 52645-53-1 | 0.01 - 1 |
| Solvent Naphtha (petroleum), Light Aromatic | | 64742-95-6 | 0.01 - 1 |
| Other components below reportable levels | | | 60 - 100 |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

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| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Direct contact with eyes may cause temporary irritation. May cause an allergic skin reaction. Dermatitis. Rash. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed. |
| General information | Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse. |

5. Fire-fighting measures

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| 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 | Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. 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 | In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | Flammable liquid and vapor. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS. |
| | Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. |

Methods and materials for containment and cleaning up

Prevent product from entering drains.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal.

Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid release to the environment. Inform appropriate managerial or supervisory personnel of all environmental releases. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist or vapor. Avoid contact with eyes, skin, and clothing. Wear appropriate personal protective equipment. Avoid release to the environment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

| US. ACGIH Threshold Limit Values Components | | Type | Value |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2) | | | |
| Components | | Type | Value |
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) | | | |
| Components | | Type | Value |
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act) | | | |
| Components | | Type | Value |
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents) | | | |
| Components | | Type | Value |
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment) | | | |
| Components | | Type | Value |
| Pyrethrins (CAS 8003-34-7) | | TWA | 5 mg/m3 |
| 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 | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. | | |
| Individual protection measures, such as personal protective equipment | | | |
| Eye/face protection | Face shield is recommended. Wear safety glasses with side shields (or goggles). | | |
| Skin protection | | | |
| Hand protection | Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. | | |
| Other | Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. | | |
| Respiratory protection | If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. | | |
| Thermal hazards | Wear appropriate thermal protective clothing, when necessary. | | |
| General hygiene considerations | When using do not smoke. 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. Contaminated work clothing should not be allowed out of the workplace. | | |

9. Physical and chemical properties

Appearance

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|-----------------------|----------------|
| Physical state | Liquid. |
| Form | Liquid. |
| Color | Not available. |
| Odor | Not available. |

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|-------------------------------------|----------------|
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | Not available. |

Initial boiling point and boiling range 212 °F (100 °C) estimated

Flash point >115.0 °F (46.1 °C)

Evaporation rate Not available.

Flammability (solid, gas) Not applicable.

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 | Not available. |
| Vapor density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | Not available. |
| Partition coefficient (n-octanol/water) | Not available. |

| | |
|----------------------------------|----------------|
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |

Other information

| | |
|--------------------------------------|--------------------------|
| Explosive properties | Not explosive. |
| Flammability class | Combustible II estimated |
| Heat of combustion (NFPA 30B) | 0.18 kJ/g estimated |
| Oxidizing properties | Not oxidizing. |
| Percent volatile | 1 % estimated |
| Specific gravity | 0.998 estimated |
| VOC (Weight %) | Not available |

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 | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Strong oxidizing agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|----------------------------------------------------------|
| Inhalation | No adverse effects due to inhalation are expected. |
| Skin contact | May cause an allergic skin reaction. |
| Eye contact | Direct contact with eyes may cause temporary irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

| | |
|-------------------------------------------------------------------------------------|--------------------------------------------------------|
| Symptoms related to the physical, chemical and toxicological characteristics | May cause an allergic skin reaction. Dermatitis. Rash. |
|-------------------------------------------------------------------------------------|--------------------------------------------------------|

Information on toxicological effects

| | |
|-----------------------|--------------------------------------|
| Acute toxicity | May cause an allergic skin reaction. |
|-----------------------|--------------------------------------|

| Components | Species | Test Results |
|--------------------------------------------------------------|----------------|------------------------|
| Solvent Naphtha (petroleum), Light Aromatic (CAS 64742-95-6) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 1900 mg/kg, 24 Hours |

Inhalation

LC50

Rat

> 5000 mg/m3, 4 Hours

> 4980 mg/m3

> 4980 mg/m3, 4 Hours

> 4.96 mg/l, 4 Hours

| Components | Species | Test Results |
|-------------|---------|--------------|
| Oral | | |
| LD50 | Rat | |
| mg/kg | 4820 | |

Piperonyl Butoxide (CAS 51-03-6)

| | | |
|---------------------|-----|---------------------|
| <u>Acute</u> | | |
| Dermal | | |
| LD50 | - | > 2000 mg/kg |
| Inhalation | | |
| LC50 | Rat | > 5.2 mg/l, 4 Hours |
| Oral | | |
| LD50 | Rat | > 2000 mg/kg |

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

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

IARC Monographs. Overall Evaluation of Carcinogenicity

Permethrin (CAS 52645-53-1)

3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity Very toxic to aquatic life with long lasting effects.

| Components | Species | Test Results |
|----------------------------------|---------|--------------------------------------------------------|
| Piperonyl Butoxide (CAS 51-03-6) | | |
| Aquatic | | |
| Fish | LC50 | Rainbow trout,donaldson trout (Oncorhynchus mykiss) |
| | | 0.0027 - 0.0043 mg/l, 96 hours |
| Pyrethrins (CAS 8003-34-7) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (Daphnia) |
| | | 0.018 - 0.032 mg/l, 48 hours |
| Fish | LC50 | Brown trout (Salmo trutta) |
| | | 0.0165 - 0.0229 mg/l, 96 hours |
| Permethrin (CAS 52645-53-1) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (Daphnia) |
| | | 0.0006-0.0025mg/l, 48 hours |
| Fish | LC50 | Apache tout (Oncorhynchus gilae apache) |
| | | 0.0013-0.0022mg/l, 96 hours |

* 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

Partition coefficient n-octanol / water (log K_{ow})

Permethrin

6.5

Mobility in soil No data 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. 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.

Local disposal regulations Dispose in accordance with all applicable 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 Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

This product meets the exception requirements of section 1.17 "limited quantities exemption" as a limited quantity and may be shipped as a limited quantity.

TDG

| | |
|----------------------------|-------------------------------------------------------------------------------------------|
| UN number | UN3082 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (INT KUUS REG 31247 0.25 PERM LIQUID) |
| Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | Yes |

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

IATA

| | |
|----------------------------|------------------------------------------------|
| UN number | UN1993 |
| UN proper shipping name | Flammable liquid, n.o.s. (C9 - C11 Isoalkanes) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | yes |
| ERG Code | 3L |

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 | Allowed with restrictions. |
| Cargo aircraft only | Allowed with restrictions. |

IMDG

| | |
|----------------------------|------------------------------------------------|
| UN number | UN1993 |
| UN proper shipping name | FLAMMABLE LIQUID, N.O.S. (C9 - C11 Isoalkanes) |
| Transport hazard class(es) | |
| Class | 3 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | |
| Marine pollutant | yes |
| EmS | F-E, S-E |

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

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

Not established.

IATA; IMDG



TDG



Marine pollutant



General information

IMDG Regulated Marine Pollutant.

15. Regulatory information

Canadian regulations

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|------------------------------------------------------------------------|------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | No |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|-------------------------------------------------------------------|------------------------|
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*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

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|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Issue date | 05-16-2023 |
| Version # | 01 |
| Disclaimer | The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. |
| Revision information | This document has undergone significant changes and should be reviewed in its entirety. |