



Safety Data Sheet

SECTION 1: CHEMICAL IDENTIFICATION

Product No.: AQ-11960SL
Name: AQuora® 750-NHS Ester Solution
Recommended Use: For Research Use Only
Manufacturer: Quanta BioDesign, Ltd.
7500 Montgomery Drive
Plain City, OH 43064
Telephone/Fax: (614) 792-2958 / (614) 760-9781
Emergency Telephone Number: (614) 286-3702

SECTION 2: HAZARDS IDENTIFICATION

GHS Classification of the substance or mixture

Flammable Liquids	Category 4
Acute Toxicity, Inhalation	Category 4
Acute toxicity, Dermal	Category 4
Eye Irritation	Category 2A
Carcinogenicity	Category 2
Reproductive Toxicity	Category 1B

GHS label elements

Pictogram:



Signal word: **Danger**

Hazard statements:

- H227 – Combustible Liquid
- H312 + H332 – Harmful in contact with skin or if inhaled
- H319 - Causes serious eye irritation
- H351 – Suspected of causing cancer
- H360 – May damage fertility or the unborn child

Precautionary statements:

- P201 – Obtain special instructions before use.
- P202 – Do not handle until all safety precautions have been read and understood.
- P210 – Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- P261 – Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
- P264 – Wash skin thoroughly after handling.
- P271 – Use only outdoors or in a well-ventilated area.

P280 – Wear protective gloves/ protective clothing/ eye protection/ face protection.

P302 + P352 + P312 – IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.

P304 + P340 + P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313 – IF exposed or concerned: Get medical advice/ attention.

P337 + P313 – If eye irritation persists: Get medical advice/ attention.

P363 Wash contaminated clothing before reuse.

P370 + P378 – In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

P403 + P235 – Store in a well-ventilated place. Keep cool.

P405 – Store locked up.

P501 – Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified: Rapidly absorbed through skin.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Mixture of the substances listed below, and additional non-hazardous chemicals.

Chemical Name	CAS-No	Weight %	GHS Classification
N,N-Dimethylacetamide	127-19-5	<= 100 %	Flam. Liq. 4; Acute Tox. 4; Eye Irrit. 2A; Carc. 2; Repr. 1B;

Any concentration shown as a range is to protect confidentiality or is due to batch variation. 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.

SECTION 4: FIRST-AID MEASURES

General Advice: Consult a physician. Show this Safety Data Sheet to the doctor in attendance.

Eye contact: After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

Inhalation: After inhalation: fresh air. Call in physician. If breathing stops: immediately apply artificial respiration, if necessary, also oxygen.

Skin contact: In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

Ingestion: After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Most important symptoms/effects, acute and delayed

Potential acute health effects

The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11

Indication of immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: FIRE-FIGHTING MEASURES

Extinguishing media:

Carbon dioxide (CO₂) Foam Dry powder

Unsuitable extinguishing media: For this substance/mixture no limitations of extinguishing agents are given.

Specific hazards arising from the chemical:

Carbon oxides

Nitrogen oxides (NO_x)

Combustible liquid.

Combustible.

Vapors are heavier than air and may spread along floors.

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Risk of dust explosion.

Special protective actions for fire-fighters: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

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.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures:

For non-emergency personnel: 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. Put on appropriate personal protective equipment.

For emergency responders: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition.

Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8. See also the information in "For non-emergency personnel".

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 and materials for containment and cleaning up:

Small spill: Stop leak if without risk. Move containers from spill area. Absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill: Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements, or confined areas. 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). Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Protective measures: Work under hood. Do not inhale substance/mixture. Avoid generation of vapors/aerosols. Keep away from open flames, hot surfaces, and sources of ignition. Take precautionary measures against static discharge.

Advice on general occupational hygiene: 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. Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities: Store under inert gas. Hygroscopic. Storage class (TRGS 510): 6.1C: Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects. Do not store above the following temperature: +2°C to +8°C. Store in accordance with local regulations. Store in original container protected from light in a dry, cool, and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. 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. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters:

Occupational exposure limits:

10 ppm TWA

USA ACGIH Threshold Limit Value; Confirmed animal carcinogen with unknown relevance to humans. Danger of cutaneous absorption

USA NIOSH Recommended exposure limits; Potential for dermal absorption
USA OSHA Table Z-1 Limits for Air Contaminants; Skin designation

35 mg/m³ TWA

USA NIOSH Recommended exposure limits; Potential for dermal absorption

USA OSHA Table Z-1 Limits for Air Contaminants; Potential for dermal absorption
10 ppm PEL
California permissible exposure limits for chemical contaminants (Title 8, Article 107); Skin
35 mg/m³ PEL
California permissible exposure limits for chemical contaminants (Title 8, Article 107); Skin

Appropriate engineering controls: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

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.

Individual protection measures:

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.

Eye/face protection: 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, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection:

Hand protection: 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.

Body protection: 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.

Other skin protection: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection: 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.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: blue to green
Physical state @ -20°C: Liquid
Odor: Ammonia Odor.
Odor threshold: 44.4 ppm
pH: ca.4 at 200 g/l at 20°C (68°F)
Melting point: -18.6°C (-1.5 °F)
Boiling point: ca.161°C ca.322°F at 1,013.25 hPa
Flash point: 64°C (147°F) - closed cup
Evaporation rate: Not available.
Flammability (solid, gas): Not available.
Lower and upper explosive (flammable) limits:
Upper explosion limit: 11.5 %(V)
Lower explosion limit: 1.8 %(V)
Vapor pressure: 2 hPa at 21.7 °C (71.1°F)
Vapor density: 3.01 - (Air = 1.0)
Relative density: Not available.
Solubility: Soluble in organic solvents including DMAC and DMSO and aqueous buffers.
Partition coefficient: log Pow: -0.77 - Bioaccumulation is not expected., (Lit.)
Auto-ignition temperature: 345°C (653°F) at 999 - 1,011 hPa - DIN 51794
Decomposition temperature: Not available.
SADT: Not available.
Viscosity: Not available.
Burning time: Not applicable.
Burning rate: Not applicable

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Forms explosive mixtures with air on intense heating.

Chemical stability: The product is chemically stable under standard ambient conditions (room temperature), hygroscopic

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

Conditions to avoid: No specific data.

Incompatible materials: No specific data.

Hazardous decomposition products: In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

Information on toxicology effects:

Acute toxicity:

Symptoms: Irritations of mucous membranes in the mouth, pharynx, esophagus and gastrointestinal tract.

LC50 Inhalation - Rat - female - 1 h - 8.8 mg/l (OECD Test Guideline 403)

Remarks: (ECHA)

Dermal: No data available

Irritation/Corrosion:

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Irritating to eyes.

(OECD Test Guideline 405)

Sensitization:

Local lymph node assay (LLNA) - Guinea pig

Result: negative

(OECD Test Guideline 429)

Mutagenicity: Not available.

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 473

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: Chinese hamster lung cells

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 476

Result: negative

Carcinogenicity:

IARC: 2B - Group 2B: Possibly carcinogenic to humans (N,N-Dimethylacetamide)

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity: May damage the unborn child.

Teratogenicity: Not available.

Specific target organ toxicity (single exposure): Not available.

Specific target organ toxicity (repeated exposure): Not available

Aspiration hazard: Not available.

Additional Information:

Repeated dose toxicity - Rat - male and female - Oral - 2 yr - NOAEL (No observed adverse effect level) - 100 - 300 mg/kg - LOAEL (Lowest observed adverse effect level) - 300 - 1,000 mg/kg

RTECS: AB7700000

impaired judgment, emotional instability, toxic psychosis, nystagmus, dysarthria, Ataxia.

To the best of our knowledge, the chemical, physical, and toxicological properties have not

been thoroughly investigated.

After absorption of toxic quantities:

Nausea

Vomiting

inebriation

muscle twitching

hallucinations

Diarrhea

lack of appetite

narcosis

Coma

Damage to:

Liver

Kidney

Central nervous system

Other dangerous properties cannot be excluded.

This substance should be handled with particular care.

Liver - Irregularities - Based on Human Evidence

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:

Toxicity to fish: static test LC50 - Leuciscus idus (Golden orfe) - > 500 mg/l - 96 h (DIN 38412 T15)

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h (Regulation (EC) No. 440/2008, Annex, C.2)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h (DIN 38412)

Toxicity to bacteria static test EC10 - activated sludge - > 1,995 mg/l - 30 min (OECD Test Guideline 209)

Persistence and degradability:

aerobic - Exposure time 28 d

Result: 70 % - Readily biodegradable.

(OECD Test Guideline 301C)

Remarks: The 10-day time window criterion is not fulfilled.

Bioaccumulative potential: Not available.

Mobility in soil: Not available

Results of PBT and vPvB assessment: PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: No known significant effects or critical hazards.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods:

The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. 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. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: TRANSPORT INFORMATION

DOT (US)

NA-Number: 1993

Class: NONE

Packing group: III

Proper shipping name: Combustible liquid, n.o.s. (N,N-Dimethylacetamide)

Reportable Quantity (RQ): >30mL

Poison Inhalation Hazard: No

IMDG: Not a dangerous good in sense of this transport regulation Land

IATA: Not a dangerous good in sense of this transport regulation.

SECTION 15: REGULATORY INFORMATION

US Federal Regulations

TSCA: Not flagged.

SARA

SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard.

International regulations:

EU regulatory information

Information according to 2012/18/EU (SEVESO III): Not subject to 2012/18/EU (SEVESO III)

Additional information

Safety Data Sheet accord to Regulation (EC) No. 1907/2006 (REACH)

SECTION 16: OTHER INFORMATION

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

History

Date of issue 9/16/2021 Date of revision 03/21/2023

Date of previously issued version:

Prepared by: Regulatory Specialist

Key to abbreviations:

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL 73/78 = International Convention for the Prevention of Pollution from Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

References: Not available.

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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