

Policy

Authorization of UN3375 ANEs and Other Regulatory Requirements

Classification of ANEs

The following classification will be assigned to UN3375 Ammonium Nitrate Emulsion, Suspension or Gel, intermediate for blasting explosives (hereinafter UN3375 ANEs): Type: E.1; PE: PE1; UN Number: Not Class 1

There will be a note in the Notice of Authorization (NOA) that states:

The substance meets the requirements of Special Provision 309 of the *Model Regulations on the Transport of Dangerous Goods*, published by the United Nations, and is a candidate to be classified as UN3375 – AMMONIUM NITRATE EMULSION or SUSPENSION or GEL, intermediate for blasting explosives. Packaging must be in accordance with Transport Canada regulations.

How to Apply for Authorization

CEAEC members will be required to submit a request for authorization, to Natural Resources Canada's (NRCan) Explosives Regulatory Division (ERD), in order to confirm the applicability of Special Provision 309 (SP309) in the UN Model Regulations. The application should include, if available, the results of Test Series 8, as well as all other relevant data required in s.28 of the *Explosives Regulations, 2013*.

ERD will review the details, and request testing at the Canadian Explosives Research Laboratory (CERL) if necessary, to confirm the applicability of SP309, or to confirm classification.

The NOA issued by the Chief Inspector of Explosives will indicate that the material meets the conditions of SP309 (in line with Transport Canada's Equivalency Certificate SH13715).

Requirements for Manufacturing, Licensing and Import

UN3375 ANEs are subject to all the applicable provisions of Part 5 of the *Explosives Regulations, 2013*, including the provisions of s. 140(1).

There is no change to licensing requirements. The classification of the product as Type E.1 and PE1 indicates that the material is to be regulated under the *Explosives Regulations, 2013* according to those classifications.

Product that will be imported under the classification of UN3375 will need to be on an import permit. Companies will be required to submit an amendment to their import permit or to apply for a new import permit.

Requirements for Transportation

Anyone transporting UN3375 ANEs must follow requirements in Part 9 of the *Explosives Regulations, 2013*. The following are specific clarifications:

191(3) –Transporting UN3375 ANEs in tanks in accordance with Transport Canada’s *Transportation of Dangerous Goods Regulations*, is considered acceptable and not considered towing under 191(3).

- Note: If, in the event of an emergency or breakdown, there is a need to tow a vehicle or rescue a tanker, this would be considered towing and must meet the regulatory requirements found in Part 9 of the *Explosives Regulations, 2013*.

191(4) – Transporting an MPU or tanker on a flatbed requires a permit issued as per 191(5).

191(6) – Transporting UN3375 ANEs in contact with iron or steel parts is considered acceptable under this subsection if this does not increase the likelihood of ignition.

- Note: the upcoming proposed modifications to the *Explosives Regulations, 2013* will update this section to be more performance-based and not list UN0332.

192(5) – Transporting UN3375 ANEs in tanks in accordance with the *Transportation of Dangerous Goods Regulations* is not considered towing, and a 20,000 kg limit does not apply for those transport scenarios. The 20,000 kg limit applies if transporting in a trailer towed under the provisions of 191(3)(b).

196(5) – A driver must not stop on route unnecessarily. Stopping while transporting UN3375 ANEs, for the purposes of adhering to provincial labour or transport laws, is considered a necessary stop and is acceptable. Transport must resume as soon as reasonably practicable after the stop.

When the driver stops for an acceptable reason, the vehicle must be parked away from areas where people gather, so that the risk of harm to people and property is as low as reasonably practicable. For ANEs, Quantity Distance Manual (QD) principles or a Quantified Risk Analysis (QRA) can be used to justify the parking location.

198(1) – A tracking and communication system is required for the transport of at least 2 000 kg of UN3375 ANEs (they will be considered the same as UN0332 under paragraph 198(2)(c)).

199(1) – Vehicle transporting UN3375 ANEs needs to be attended in person when not at a licensed factory.

- Note: the upcoming proposed modifications to the *Explosives Regulations, 2013* will permit electronic monitoring for 199(1).

200(1) – When the driver stops for an acceptable reason for overnight parking, the vehicle must be parked away from any dwelling, any place where flammable substances are stored, and areas where

people gather, so that the risk of harm to people and property is as low as reasonably practicable. For UN3375 ANEs, a QD principles or QRA analysis can be used to justify the parking location.

200(2) – Vehicle transporting UN3375 ANEs needs to be attended in person when not at a licensed factory.

- Note: the upcoming proposed modifications to the *Explosives Regulations, 2013* will permit electronic monitoring for 200(2).

Requirements for NEEQ of 75% for Storage in Bulk

In order to apply 75% NEEQ for storage licence QD evaluations, the product must be approved by ERD, based on the information supplied to ERD in the authorization application. The ANE must meet the following requirements to be considered for NEEQ:

- It does not contain perchlorates in emulsions;
- It does not contain sensitizers (microballoons, gas bubbles, or any other physical or chemical sensitizers);
- It passes the UN Test Series 8, and is a candidate for inclusion as an Ammonium Nitrate Emulsion, Suspension or Gel; and,
- It has a calculated heat of explosion of less than 75% of TNT (based on a value of 4564 kJ/kg for TNT).

The following information must be supplied to ERD for review:

- The chemical composition of the product to be stored or made at the site including percentage of all ingredients and their tolerances.
- The results of a Series 8 Test, if available.
- The calculated TNT equivalence of the product including the heats of formation, densities and empirical formulae of the ingredients.

The review of NEEQ considerations and adherence to the conditions of SP309 can be done simultaneously by ERD as part of the authorization process.

NOTE: The suitability of the ANE for NEEQ will be indicated on the NOA. The approval by ERD of the NEEQ of 75% must be included as a licence document in form of a reference to the NOA file number, in order to use 75% of the gross mass for QD calculations of storage locations.