

Two nitrogen release profiles in one product

SUSTAFER NITRO TN contains 28% total nitrogen: 11% is quickly available and 17% is released gradually. The product can be applied to the soil or foliage as part of nutrient programmes for different crop groups.

28%	11%	17%
TOTAL NITROGEN	QUICKLY AVAILABLE NITROGEN	SLOW-RELEASE NITROGEN

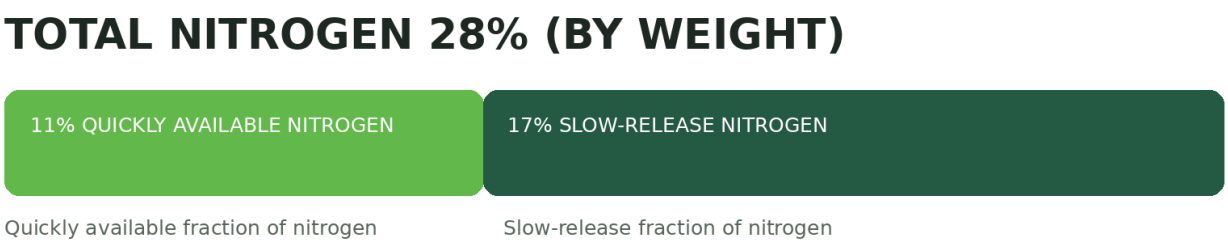
LOWER LEAF-BURN POTENTIAL · CONTROLLED RELEASE · SUPPORTS SOIL MOISTURE

SUSTAFER

NITRO TN

TRIAZONE NITROGEN FERTILIZER · 11% QUICKLY AVAILABLE / 17% SLOW RELEASE

SUSTAFER NITRO TN is a triazone nitrogen fertilizer containing 28% total nitrogen: 11% is quickly available and 17% is released gradually. The product can be applied to the soil or foliage.



Distribution of total nitrogen between the quickly available and slow-release fractions.

Key product benefits

Product feature	Use benefit
Nitrogen profile	Of the total 28% nitrogen, 11% is quickly available and 17% is released gradually.
Foliar application and crop safety	According to the product information sheet, the product remains liquid on the leaf surface longer than urea and other nitrogen sources. Compared with urea, nitrate and ammonium, it has lower leaf-burn potential and supports nitrogen uptake [1, 2]. Accumulation does not cause leaf burn.
Two application methods	The label lists soil/irrigation and foliar application. Select the method according to the crop, growth stage, analysis results and label recommendation for the crop concerned.
Rates tailored to crop groups	The label recommendations include soil and foliar application for different crop groups. They support preparation of a nutrient programme based on crop group and application method.
Observed yield increase	This property of triazone nitrogen is reported to increase crop yield; increases of 20–25% have been observed.
Soil moisture and irrigation management	Helps maintain soil moisture. This may contribute to a lower irrigation requirement; the actual effect depends on soil, climate, crop and irrigation regime.

Triazone technology

The product information sheet describes triazone nitrogen as a stable, slow-release nitrogen source with low volatility. In foliar application, it remains liquid on the leaf surface longer than urea.

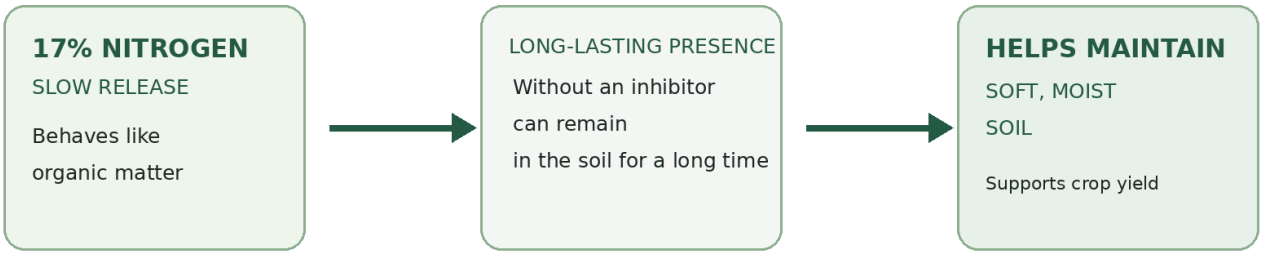
Role in the crop nutrition programme

Triazone nitrogen behaves like organic matter and helps keep the soil soft and moist. It can remain in the soil for a long time without an inhibitor. According to the product information sheet, maintaining suitable soil moisture supports the uptake of nitrogen and other nutrients. This may reduce irrigation needs; irrigation should be managed according to field conditions.

How nitrogen is supplied to the crop

BEHAVIOUR OF TRIAZONE NITROGEN IN SOIL

Presence of triazone nitrogen in soil



Schematic illustration of the behaviour of triazone nitrogen in soil.

Triazone nitrogen behaves like organic matter, helps keep the soil soft and moist, and can remain in the soil for a long time without an inhibitor. According to the product information sheet, triazone nitrogen can continue to serve as a nitrogen source in soil for 74 days. The sheet also states that retaining soil moisture supports the uptake of nitrogen and other nutrients. This may contribute to reduced irrigation needs; irrigation amount and frequency should be adjusted to field conditions.

Nitrogen release profiles

Quickly available nitrogen	Slow-release nitrogen	Combined profile
11% of product weight Quickly available fraction of nitrogen	17% of product weight Slow-release fraction of nitrogen	Quickly available and slow-release nitrogen in one product.

Values confirmed by laboratory analysis

The report from Başkent Laboratuvar Hizmetleri dated 17 June 2025 lists the following results for the sample submitted. Guaranteed label values and analytical results are shown separately.

Parameter	Label value	Analysis result[1]
Total nitrogen	28.0%	28.3%
Quickly available nitrogen	11.0%	11.1%
Slow-release nitrogen	17.0%	17.2%
Density	1.24 kg/L	1.24 g/cm³

[1] Results apply only to the sample submitted by the customer and analysed by the laboratory. For current commercial batches, use a certificate of analysis issued for the specific batch.

Application and technical information

TECHNICAL SUMMARY OF LABEL RECOMMENDATIONS

Application methods

The label recommends foliar and soil application. For soil application, the product may be delivered as part of the irrigation schedule. The listed rates are for different crop groups.

Summary of label rates

Crop group	Timing (summary)	Soil application L/da	Foliar application mL/100 L
Greenhouse and open-field vegetables	1 week after transplanting; 3–4 applications	3–5	200–300
Leafy vegetables	During the growing season; 3–4 applications	1–2	200–250
Tuber crops	After hoeing; 2 applications at 15–20 day intervals	1–2	200–250
Fruit trees, olives, vineyards and hazelnuts	During the growing season; 3–4 applications	3–7	200–300
Industrial crops	From the 6–8 leaf stage; 2–3 applications	1–2	200–350
Legumes	During the growing period; 2–3 applications	1–3	200–250
Cereals	At tillering and the beginning of stem elongation; 2 applications	3–5	200–400

Soil rates are in L/da (1 da = 0.1 ha). Foliar rates indicate the amount of product per 100 L of water. Soil and/or leaf analysis is recommended before application.

Mix preparation and application

Partially fill the tank with water. Add the recommended amount of product and mix, then top up with water. According to the current label, do not mix the product with strongly acidic or strongly alkaline products. For new tank mixes, check compatibility on a small volume first.

Packaging and manufacturer

Packaging	1 L · 5 L · 20 L · IBC
Manufacturer	ProAktiv Kimya A.Ş. · Erenler / Sakarya / Türkiye

PROAKTIV KİMYA A.Ş.

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SUSTAFER NITRO TN is a triazone nitrogen fertilizer combining quickly available and slow-release nitrogen.

Scientific assessment and references

SUMMARY OF LITERATURE CITED IN THE PRODUCT INFORMATION SHEET

Foliar application and crop safety

The literature cited in the product information sheet reports that triazone nitrogen has lower leaf-burn potential than traditional nitrogen sources for which salt index and leaf burn can be concerns. The sheet also states that triazone nitrogen can remain liquid on the leaf surface longer than urea and supports foliar nitrogen uptake. This summary draws on Clapp's study of crop safety for liquid urea-triazone fertilizers applied to foliage and Widders' comparison of uptake and translocation of foliar-applied triazone nitrogen with other nitrogen sources in tomato [1, 4]. Widders also reports that uptake of triazone nitrogen into leaf tissue may exceed that of urea, ammonium and nitrate nitrogen, and that solution osmolality and nitrogen penetration may increase [4].

Controlled release and presence in soil

The product information sheet describes triazone nitrogen as a slow-release nitrogen source with low volatility. It links this controlled-release mechanism to the cited literature on triazone and controlled-release fertilizers [2, 3]. A technical article cited in the sheet reports that the product may remain in the soil for 74 days and continue to provide nitrogen during that period. This is technical information from the sheet, not an independent guarantee that the same duration will occur under all soil and environmental conditions.

References

[1] Clapp, J. G., Jr. (1994). "Foliar application of liquid urea-triazone-based nitrogen fertilizers and crop safety." pp. 442–444. Bibliographic details as listed in the product information sheet.

[2] Hawkins, E. F. (1985). Triazone fertilizer and method of making. US Patent 4,599,005. Published 19 November 1985.

[3] Landels, S. P., A. Leder and N. Takei. (1990). "Controlled release fertilizers." Chemical Economics Handbook. SRI International, Menlo Park, California.

[4] Widders, I. E. (1991). "Absorption and translocation of foliar applied triazone-N as compared to other nitrogen sources in tomato." Journal of Plant Nutrition, 14(10), 1035–1045.

Triazone molecule and release graph

SCIENTIFIC FIGURES FROM THE PRODUCT INFORMATION SHEET

Chemical structure of the triazone molecule

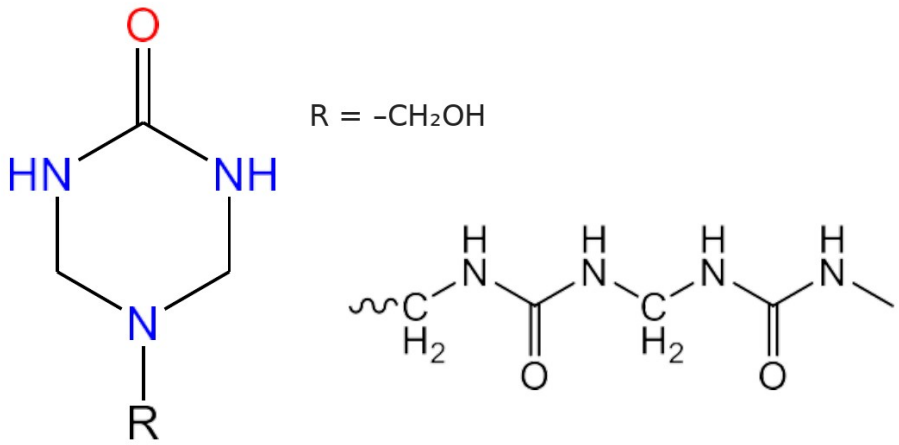


Figure 1. Chemical structure of the triazone molecule. Source: SUSTAFER NITRO TN product information sheet.

Soil release curve

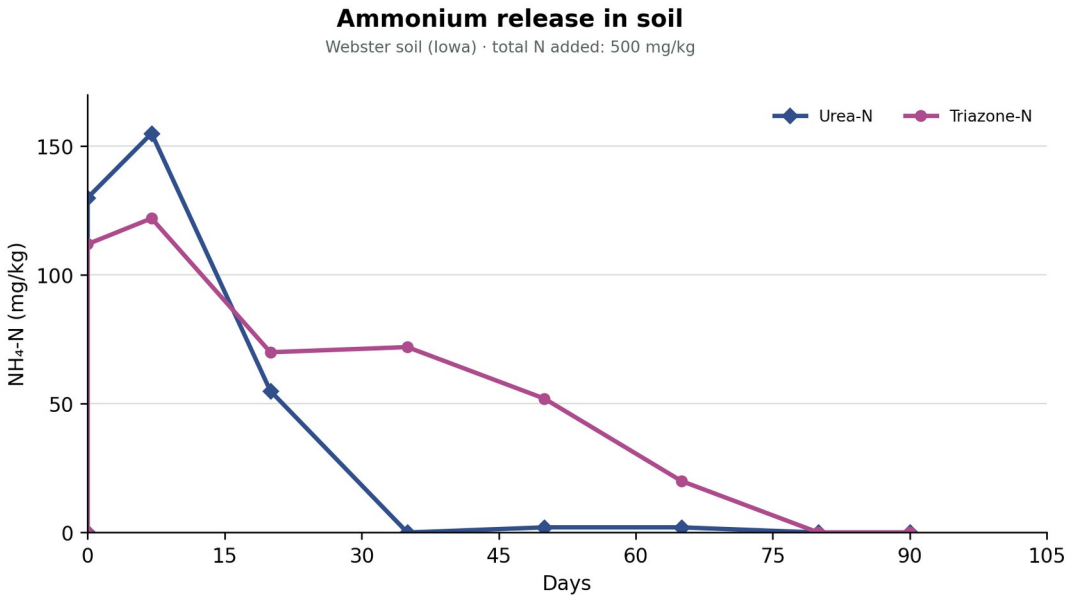


Figure 2. Change in NH_4-N over time after a total addition of 500 mg N/kg to Webster soil (Iowa). Curves are approximate reproductions from the source graph; raw measured data are not included in the product information sheet.

Source note: References follow the bibliographic details provided in the SUSTAFER NITRO TN product information sheet. Where title, journal, volume or publication details are missing, the available information has been retained. Murray (2007), cited in the article, is not included because a full reference is unavailable. The findings summarise assessments in the cited sources and product information sheet; they are not an independent guarantee of product performance or results under all conditions.