

# OSMOTECH

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## Nitrification Inhibitor Fertilizers PRODUCT CATALOGUE



[www.dogatech.com.tr](http://www.dogatech.com.tr)

# Introduction

The most important development of this century is the development of efficient products for battling different specific problems through the unlimited possibilities of technology in every field. The breakthroughs and technological developments our country has made in recent years through the increasing R&D capacities in universities and research institutions, enable the development and marketing of much better technologies than previously developed ones.

One of these technological developments is to make nitrogenous fertilizers used in agricultural production much more useful and effective without any loss in the soil. It has become one of the most important issues that ensure the protection of plant health in agricultural products, ensuring trouble-free growth and development, regular flowering, healthy fertilization with effective pollination, and ultimately increasing fruit set, productivity and quality.

Our company, Doğatech AR-GE A. Ş., established in 2016 is an R&D company at the Erciyes University Technology Development Centre (ERCIYES TEKNOPARK) through its research works developed the latest nitrification inhibitor technology product patented under the name 3,5 Dimethyl pyrazolium glycerol borate (DMPB), which it uses in producing and marketing various nitrification fertilizers.

Our products are formulated based on the results obtained from field trials as well as feedbacks from experienced growers. We believe that our fertilizers will be effective in different geographies and are ready to partner with fertilizer production companies, importers, farmers across the globe.

Regards

Doğatech AR-GE A.Ş. Board of Directors

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A close-up photograph of green rice plants with long, slender leaves and developing panicles. The plants are vibrant green, and the background is slightly blurred, creating a sense of depth. A solid green rectangular box is overlaid on the upper left portion of the image, containing white text.

# Nitrification Inhibitor Fertilizers

# What are Nitrification Inhibitor Fertilizers?

Nitrification inhibitor fertilizers are fertilizers containing ammonium nitrogen coated with special chemicals in order to preserve the nitrogen (N) given to the soil for a longer time. 3-5, Dimethyl pyrazolium glycerol borate (DMPB) nitrification inhibitor, one of the most recently developed nitrification technologies, is produced by DOĞATECH AR-GE A.Ş.

When used to treat ammonium ( $\text{NH}_4^+$ ) based nitrogen fertilizers, this inhibitor slows down the development and activities of *Nitrosomonas* and *Nitrococcus* bacteria in the soil. This slowing down also reduces the amount of urease enzyme secreted by the bacteria.

With these two mechanisms, DMPB also slows down the conversion of ammonium ( $\text{NH}_4^+$ ) to nitrate ( $\text{NO}_3^-$ ) and thus prevents the loss of nitrogen from the soil through leaching and volatilization. Therefore,  $\text{NH}_4^+$  nitrogen in fertilizers treated with DMPB nitrification inhibitor product can remain in the soil in the form of ammonium for a long time, up to 8 weeks, depending on soil and climatic conditions (especially temperature).

Long-term presence of nitrogen in the soil ensures regular intake of macro and micro elements along with nitrogen by the plant. Thus, healthy, efficient and quality products are obtained. Our aim is to ensure profitability in fertilizer use while minimizing environmental pollution.

# Base Fertilizers

10-10-10+(23 SO<sub>3</sub>)  
12-12-17+(2.5 MgO) + (8.5 S)  
15-15-15+(20 SO<sub>3</sub>)  
17-17-8+(10 S)  
18-6-6+(48 SO<sub>3</sub>)  
20-10-10+(9 S)  
20-20-0+(36 SO<sub>3</sub>)  
18-46-0



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## 10-10-10+(23 SO<sub>3</sub>)

### GUARANTEE CONTENT

### %W/W

Total Nitrogen (N)	10
Ammonium Nitrogen (NH <sub>4</sub> -N) (with DMPB Inhibitor)	9
Urea Nitrogen (NH <sub>2</sub> -N)	1
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	10
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	10
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	10
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	10
Sulphur Trioxide (SO <sub>3</sub> ) - Water Soluble	23
Nitrification Inhibitor (DMPB)	0,15



### FEATURES

Osmotech 10-10-10 + (23 SO<sub>3</sub>) contains 9% Ammonium Nitrogen (NH<sub>4</sub>-N), 10% Phosphorus (P<sub>2</sub>O<sub>5</sub>), 10% Potassium (K<sub>2</sub>O) and 23% SO<sub>3</sub> and thanks to the DMPB Nitrogen inhibitor in its composition, it delays the nitrification of ammonium nitrogen for 4-8 weeks depending on the soil temperature and pH, prevents the nitrogen from being lost in the through volatilization and leaching, thereby ensuring nitrogen remains in the plant root zone for a long time.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	250-300 kg/ha
Leaf defatted in vegetables (Lettuce, Cabbage etc.)	150-200 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	250-300 kg/ha
Citrus And Olive	300-400 kg/ha
Banana	300-400 kg/ha
In vineyards	150-200 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	400-500 kg/ha
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	250-300 kg/ha

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## 12-12-17+(2,5 MgO)+(8,5 S)

### GARANTİ EDİLEN İÇERİK %W/W

Total Nitrogen (N)	12
Ammonium nitrogen (NH <sub>4</sub> -N) (DMPB With inhibitor)	4,5
Urea nitrogen (NH <sub>2</sub> -N)	7,5
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	12
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	12
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	12
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	17
Magnesium Oxide (MgO) - water Soluble	2,5
Sulphur (S) - Water Soluble	8,5
Nitrification inhibitor (DMPB)	0,15



## FEATURES

Osmotech 12-12-17 + (2.5 MgO) + (8.5 S) is a granular fertilizer containing 12% Nitrogen and 12% Phosphorus (P<sub>2</sub>O<sub>5</sub>) and 17% Potassium (K<sub>2</sub>O), 2.5% MgO and 8.5% S. The ammonium in formulation is treated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leafy vegetables (Lettuce, Cabbage etc.)	300-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	500-600 kg/ha
Citrus And Olive	500-600 kg/ha
Banana	800-1000 kg/ha
In vineyards	200-250 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	500-600 kg/ha

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## 15-15-15+(20 SO<sub>3</sub>)

### GUARANTEE CONTENT

### %W/W

Total Nitrogen (N)	15
Ammonium Nitrogen (NH <sub>4</sub> -N) (with DMPB Inhibitor)	15
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	15
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	15
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	14
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	15
Sulphur Trioxide (SO <sub>3</sub> ) - Water Soluble	20
Nitrification Inhibitor (DMPB)	0,18



### FEATURES

Osmotech 15-15-15 + (20 SO<sub>3</sub>) is made of 15% Ammonium Nitrogen (NH<sub>4</sub>-N), 15% Phosphorus (P<sub>2</sub>O<sub>5</sub>), 15% Potassium (K<sub>2</sub>O) and contains 20% SO<sub>3</sub>. The nitrogen in this product is coated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leaf defatted in vegetables (Lettuce, Cabbage etc.)	300-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	250-300 kg/ha
Citrus And Olive	500-600 kg/ha
Banana	800-1000 kg/ha
In vineyards	200-250 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	500-600 kg/ha



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## 17-17-8+(10 S)

### GUARANTEE CONTENT

### %W/W

Total Nitrogen (N)	17
Ammonium nitrogen (NH <sub>4</sub> -N) (DMPB With inhibitor)	12,2
Urea nitrogen (NH <sub>2</sub> -N)	4,8
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	17
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	17
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	17
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	8
Sulphur (S) - Water Soluble	10
Nitrification inhibitor (DMPB)	0,21



### FEATURES

Osmotech 17-17-8 + (10 S) is a granular fertilizer containing 17% Nitrogen (N) and 17% Phosphorus (P<sub>2</sub>O<sub>5</sub>) and 8% Potassium (K<sub>2</sub>O) and 10% S. The ammonium nitrogen in Osmotech 17-17-8 + (10 S) fertilizer is treated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	300-400 kg/haa
Fruit in the trees (Apple, Pear, Peach etc.)	500-600 kg/ha
Citrus And Olive	500-600 kg/ha
Banana	800-1000 kg/ha
In vineyards	200-250 kg/ha
Corn, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	500-600 kg/ha

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## 18-6-6+(48 SO<sub>3</sub>)

### GUARANTEE CONTENT

%W/W

Total Nitrogen (N)	18
Ammonium Nitrogen (NH <sub>4</sub> -N) (with DMPB Inhibitor)	18
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	6
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	6
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	6
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	6
Sulphur Trioxide (SO <sub>3</sub> ) - Water Soluble	48
Nitrification Inhibitor (DMPB)	0,21



### FEATURES

Osmotech 18-6-6 + (48 SO<sub>3</sub>) contains 18% Ammonium Nitrogen (NH<sub>4</sub>-N), 6% Phosphorus (P<sub>2</sub>O<sub>5</sub>), 6% Potassium (K<sub>2</sub>O) and 48% SO<sub>3</sub>. Thanks to the DMPB nitrification inhibitor used to coat the nitrogen, nitrification of ammonium nitrogen is delayed for 4-8 weeks depending on the soil temperature and pH, prevents the nitrogen from being lost in the through volatilization and leaching, thereby ensuring nitrogen remains in the plant root zone for a long time.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	250-300 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	150-200 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	250-300 kg/ha
Citrus And Olive	300-400 kg/ha
Banana	300-400 kg/ha
In vineyards	105-200 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	400-500 kg/ha

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## 20-10-10+(9 S)

### GUARANTEE CONTENT

### %W/W

Total Nitrogen (N)	20
Ammonium nitrogen (NH <sub>4</sub> -N) (DMPB With inhibitor)	8,5
Urea nitrogen (NH <sub>2</sub> -N)	11,5
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	10
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	10
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	10
Potassium Oxide (K <sub>2</sub> O) - Water Soluble	10
Sulphur (S) - Water Soluble	9
Nitrification inhibitor (DMPB)	0,23



### FEATURES

Osmotech 20-10-10 + (9 S) is a granular fertilizer containing 20% Nitrogen (N) and 10% Phosphorus (P<sub>2</sub>O<sub>5</sub>) and 10% Potassium (K<sub>2</sub>O), 2.5% MgO and 9% S. The ammonium in Osmotech 20-10-10 + (9 S) fertilizer is treated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	300-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	500-600 kg/ha
Citrus And Olive	500-600 kg/ha
Banana	800-1000 kg/ha
In vineyards	200-250 kg/ha
Corn, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	500-600 kg/ha

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## 20-20-0+(23 SO<sub>3</sub>)

### GUARANTEE CONTENT

%W/W

Total Nitrogen (N)	20
Ammonium Nitrogen (NH <sub>4</sub> -N) (with DMPB Inhibitor)	20
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	20
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	20
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Water Soluble	18
Sulphur Trioxide (SO <sub>3</sub> ) - Water Soluble	36
Nitrification Inhibitor (DMPB)	0,24



### FEATURES

Osmotech 20-20-0 + (36 SO<sub>3</sub>) is Nitrogen-Phosphate (NP) made up of 20% Ammonium Nitrogen (NH<sub>4</sub>-N), 20% Phosphorus (P<sub>2</sub>O<sub>5</sub>) and 36% SO<sub>3</sub>. The nitrogen in this product is coated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	400-500 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	300-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	250-300 kg/ha
Citrus And Olive	500-600 kg/ha
Banana	800-1000 kg/ha
In vineyards	200-250 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	500-600 kg/ha

# OSMOTECH

## 18-46-0

### GUARANTEE CONTENT

### %W/W

Total Nitrogen (N)	18
Ammonium Nitrogen (NH <sub>4</sub> -N) (with DMPB Inhibitor)	18
Total Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> )	46
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - Soluble in neutral ammonium citrate and water	46
Phosphorus Pentoxide (P <sub>2</sub> O <sub>5</sub> ) - water Soluble	42
Nitrification inhibitor (DMPB)	0,21



### FEATURES

Thanks to the DMPB nitrification inhibitor used in coating this product, nitrification of the nitrogen in its composition is delayed for 4-8 weeks depending on the soil temperature and pH, prevents the nitrogen from being lost in the through volatilization and leaching, thereby ensuring nitrogen remains in the plant root zone for a long time.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	320-400 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	320-400 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	320-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	320-400 kg/ha
Citrus And Olive	320-400 kg/ha
Banana	320-400 kg/ha
In vineyards	320-400 kg/ha
Maize, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	320-400 kg/ha

# Straight Fertilizers

(Water Soluble)

N-21 (21-0-0)  
N-33 (33-0-0)



# OSMOTECH N-21 (21-0-0)

## GUARANTEE CONTENT

## %W/W

Total Nitrogen (N) 21

Ammonium Nitrogen (NH<sub>4</sub>-N)  
(with DMPB Inhibitor) 21

Sulphur Trioxide (SO<sub>3</sub>) - Water Soluble 60

Nitrification Inhibitor (DMPB) 0,24



## FEATURES

Osmotech N-21 is a sole nitrogen fertilizer made up of 21% ammonium sulphate (NH<sub>4</sub>-N). All of the ammonium nitrogen in Osmotech N-21 fertilizer is treated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	500-600 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	400-500 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	300-400 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	400-600 kg/ha
Citrus And Olive	500-700 kg/ha
Banana	800-1000 kg/ha
In vineyards	300-400 kg/ha
Corn, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	600-800 kg/ha

# OSMOTECH N-33 (33-0-0)

## GUARANTEE CONTENT

## %W/W

Total Nitrogen (N) 33

Ammonium Nitrogen (NH<sub>4</sub>-N)  
(with DMPB Inhibitor) 10,5

Urea (NH<sub>2</sub>-N) 22,5

Sulphur Trioxide (SO<sub>3</sub>) - Water Soluble 30

Nitrification Inhibitor (DMPB) 0,42



## FEATURES

Osmotech N-33 is a nitrogen fertilizer containing 10.5% ammonium nitrogen (NH<sub>4</sub>-N) and 22.5% urea nitrogen (NH<sub>2</sub>-N). All of the ammonium nitrogen in Osmotech N-21 fertilizer is treated with DMPB nitrification inhibitor which delays the nitrification of ammonium nitrogen for 4-8 weeks depending on temperature and pH. Nitrogen thus stays in the plant root zone for a long time and hence enhancing nitrogen use efficiency.

CROP	DOSAGE
Greenhouse plants (Tomatoes, Cucumber, Eggplant, Pepper, Squash etc.)	350-450 kg/ha
Open Area in your vegetables (Strawberry, Watermelon, Melon, Squash etc.)	300-350 kg/ha
Leaf defeated in vegetables (Lettuce, Cabbage etc.)	250-300 kg/ha
Fruit in the trees (Apple, Pear, Peach etc.)	300-450 kg/ha
Citrus And Olive	350-550 kg/ha
Banana	550-650 kg/ha
In vineyards	250-300 kg/ha
Corn, Sugar beet, Sweetcorn, Potatoes, Cotton and other field crops	450-650 kg/ha



# Other Products

SunHat

# OSMOTEC

## SunHat

### Calcium chloride solution

GUARANTEE CONTENT	%W/W
Water Soluble Calcium Oxide (CaO)	12
Boron (B) - water Soluble	0,15



CROP	APPLICATION	DOSAGE (Folia Application)
Citrus, Grape, Olive, Apple, Pear, Pomegranate, Cherry, Cherry, Peach, Imond, Walnut, Vegetables (Tomato, Pepper, Cucumber, Eggplant), etc.	Apply 4 times at 15-day intervals starting from fruit set	3 liters in 1000 L water for 1000 m <sup>2</sup> area

SunHat should be applied under cool dry air conditions (preferably morning or evening) with low wind velocities. SOLAREX is not suitable for use on plants where sprinkler irrigation is done as the product will be washed off. The product can be mixed with many common pesticides except copper containing pesticides or compounds.

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OSMOTECH is a Sub Brand of Doğatech AR-GE A.Ş.



#### ADDRESS

İncesu OSB 4. Cad. No: 46, İncesu  
Kayseri / TURKIYE

**Tel & Fax No:** +90 352 503 00 22

**Email:** info@dogatech.com.tr

MADE IN

Türkiye

Discover  
the potential