

**Safety Data Sheet**

Conforms to 1907/2006/EC

Version 5

Issue date 10-8-2009

Hot Ammonium Nitrate Solution (92%)						
<b>1 Identification of the substance/preparation and of the company/undertaking</b>						
<b>Commercial product name</b>	Hot Ammonium Nitrate Solution (HANS)					
<b>Common chemical name</b>	Ammonium nitrate ( hot concentrated solution)					
<b>Synonyms</b>	Ammonium Nitrate, liquid ; NASC (Nitrate d'Ammonium en Solution Chaude)					
<b>Chemical formula</b>	NH4NO3					
<b>Use of the substance/preparation</b>	This substance is used in the chemical industry.					
<b>EU category number</b>						
<b>Company name</b>	DSM Agro B.V.					
<b>Company address</b>	P.O. Box 601 6160 AP Geleen The Netherlands					
<b>Company telephone</b>	(31) 46 476 00 55					
<b>Company e-mail</b>	<a href="mailto:dsm.agro@dsm.com">dsm.agro@dsm.com</a>					
<b>Emergency telephone</b>	(31) 46 476 55 55 <span style="float: right;">24/24 hours 7/7 days</span>					
<b>2 Hazards identification</b>						
<b>Physical/chemical hazards</b>	May be explosive in contact with flammable or organic substances and at confinement during fire. Liquid may cause skin and eye burns due to high temperature.					
<b>Environmental hazards</b>	Slightly harmful to the aquatic environment.					
<b>Effect(s) of (over)exposure</b>						
<b>Symptom(s) of (over)exposure</b>	Liquid causes burns to skin and eyes due to high temperature. May cause mechanical irritation.					
<b>Inhalation</b>	Over-exposure by inhalation may cause respiratory irritation. (coughing)					
<b>Ingestion</b>	Burns due to high temperature, redness, pain. After intake of large quantities: Can cause gastrointestinal disturbances.					
<b>Skin contact</b>	Burns due to high temperature, redness, pain. Slightly irritating to the skin. (redness).					
<b>Eye contact</b>	Burns due to high temperature, redness, pain. May cause eye irritation. (redness).					
<b>3 Composition/information on ingredients</b>						
<b>Chemical name</b>	<b>CAS no.</b>	<b>EC no.</b>	<b>% (w/w)</b>	<b>Symbol</b>	<b>R phrases</b>	
Ammonium nitrate	6484-52-2	229-347-8	max. 93	-	-	
Water	7732-18-5	231-791-2	min. 7	-	-	
<i>EC no. means EINECS or ELINCS number.</i>						
<b>4 First aid measures</b>						
<b>General</b>						
<b>Inhalation</b>	If inhaled, remove to fresh air. Obtain medical attention if symptoms occur.					
<b>Ingestion</b>	If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. Obtain medical attention if symptoms occur.					
<b>Skin contact</b>	Rinse with plenty of running water. Remove contaminated clothing and shoes. Obtain medical attention if symptoms occur.					
<b>Eye contact</b>	Rinse with plenty of running water. Obtain medical attention if symptoms occur.					
<b>Note to physician</b>	methaemoglobinaemia					

<b>5 Fire-fighting measures</b>	
<b>Extinguishing media</b> <b>Small fire</b> <b>Large fire</b> <b>Extinguishing media not to be used</b> <b>Unusual fire and explosion hazards</b> <b>Hazardous thermal decomposition and combustion products</b> <b>Special fire fighting procedures</b>	Non-combustible. This product can sustain combustion. Water Non-combustible. This product can sustain combustion. Water May be explosive in contact with flammable or organic substances and at confinement during fire. In case of fire, may produce hazardous decomposition products such as nitrogen oxides (NO, NO2 etc.), ammonia (NH3), amines. No special measures required. Wear suitable protective clothing. Self-contained breathing apparatus.
<b>6 Accidental release measures</b>	
<b>Personal precautions</b> <b>Environmental precautions</b> <b>Methods for cleaning up</b> <b>Small spill and leak</b> <b>Large spill and leak</b> <b>Remarks</b>	Use suitable protective equipment (section 8). Avoid contact of spilt material with soil and prevent runoff entering surface waterways. Vacuum or sweep up material and place in a designated, labelled waste container. Clean up affected area with a large amount of water. Do not collect spilled material in sawdust or other combustible material. Vacuum or sweep up material and place in a designated, labelled waste container. Recycle, if possible. Clean up affected area with a large amount of water. If spilled substance enters a watercourse, inform the local authority. Do not collect spilled material in sawdust or other combustible material.  <i>Note: see section 8 for personal protective equipment and section 13 for waste disposal.</i>
<b>7 Handling and storage</b>	
<b>Handling</b> <b>Storage</b> <b>Specific use(s)</b> <b>Packaging materials</b>	Use with adequate ventilation. Local exhaust ventilation should be provided. Avoid possible sources of ignition (spark or flame). Avoid contamination by any source including metals, dust and organic materials. Avoid contact with combustible and reducing materials. Do not expose to high temperatures. Stainless steel (304) Non suitable: Zinc., Copper  <i>Note: See section 10 for stability and reactivity</i>
<b>8 Exposure controls / Personal protection</b>	
<b>Exposure limit values</b> <b>Engineering measures</b> <b>Hygienic measures</b> <b>Personal protection</b> <b>Respiratory system</b> <b>Skin and body</b> <b>Hands</b> <b>Eyes</b> <b>Environmental exposure controls</b>	None required. However, use of adequate ventilation : is good industrial practice. When using do not eat, drink or smoke. Wash hands after handling compounds and before eating, smoking and using the lavatory and at the end of the day. Production scale Respiratory protection. Working clothes. Protective (heat resistant) gloves. Face shield.  <i>Advice on personal protection is applicable for high exposure levels.</i> <i>Select proper personal protection based on a risk</i>
<b>9 Physical and chemical properties</b>	
<b>Appearance</b> <b>Color</b> <b>Odor</b> <b>Odor threshold</b> <b>Molecular weight</b> <b>pH</b>	Hot (140 °C) aqueous liquid Clear Odourless 80.06 (Ammonium nitrate) >4.5 (Concentration 10%)





<b>Boiling point</b>	159 °C Decomposes. >210 °C
<b>Melting point/ range</b>	
<b>Congealing point</b>	110 °C
<b>Flash point</b>	Not applicable.
<b>Flammability</b>	Not applicable.
<b>Autoignition temperature</b>	Not applicable.
<b>Decomposition temperature</b>	Not applicable.
<b>Lower explosion limit</b>	Not applicable.
<b>Upper explosion limit</b>	Not applicable.
<b>Minimum ignition energy</b>	Not applicable.
<b>Critical temperature</b>	Not applicable.
<b>Relative density</b>	
<b>Density</b>	1420 kg/m <sup>3</sup>
<b>Loose bulk density</b>	
<b>Vapour pressure at 20°C</b>	
<b>Vapour density</b>	
<b>Partition coefficient n-octanol/water</b>	
<b>Viscosity</b>	
<b>Mean particle size</b>	
<b>Solubility in water</b>	192 g/100 ml (20°C) Easily soluble in cold water.
<b>Miscibility</b>	
<b>Fat solubility</b>	
<b>Conductivity</b>	
<b>Gas group</b>	
<b>Remarks</b>	May be explosive in contact with flammable or organic substances and at confinement during fire.

#### 10 Stability and reactivity

<b>Stability</b>	Stable under recommended storage and handling conditions (see section 7).
<b>Conditions to avoid</b>	Decomposes on heating. Confinement must be avoided.
<b>Materials to avoid</b>	Reducing agents, strong acids and bases, metal powders, combustible materials, chromates, zinc, copper and copper alloys, chlorates.
<b>Hazardous decomposition products</b>	nitrogen oxides (NO, NO <sub>2</sub> )

#### 11 Toxicological information

<b>Acute toxicity</b>				
<b>Ingredient name</b>	<b>Test</b>	<b>Species</b>	<b>Route</b>	<b>Result</b>
Ammonium nitrate	LD50	Rat	Dermal	>5000 mg/kg
	LD50	Rat	Oral	2950 mg/kg
	LD50	Rat	Oral	2800 mg/kg
	LD50	Rat	Oral	2462 mg/kg
	LD50	Rat	Oral	2217 mg/kg
	LC50	Rat	Inhalation dusts and mists	88 mg/L ( 4 hours)
<b>Irritation</b>				
<b>Sensitization</b>				
<b>Chronic toxicity</b>				
No known significant effects or critical hazards.				
<b>Carcinogenicity</b>				
No known significant effects or critical hazards.				
<b>Reproductive toxicity</b>				
No known significant effects or critical hazards.				
<b>Mutagenicity</b>				
<b>Ingredient name</b>	<b>Test</b>	<b>Experiment</b>		<b>Result</b>
Ammonium nitrate	-	In vitro; Bacteria; yes and no: same result		Negative

Classification						
Ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Ammonium nitrate	-	2A	-	-	-	-
<b>Remarks</b>		Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. Methaemoglobinaemia				
12 Ecological information						
<b>Ingredient name</b>						
<b>Aquatic half-life</b>		<b>Photolysis</b>		<b>Biodegradability</b>		
Ammonium nitrate		-		readily		
<b>Ingredient name</b>						
<b>Test</b>		<b>Period</b>		<b>Result</b>		
Ammonium nitrate		Daphnia (EC50) Algae (IC50) Fish (LC50)		48 hours 72 hours 96 hours		10-100 mg/L 10-100 mg/L 10-100 mg/L
<b>Ingredient name</b>						
<b>LogPow</b>		<b>Bio-concentration factor</b>		<b>Bioaccumulative potential</b>		
Ammonium nitrate		-3.1		-		
<b>Mobility</b>		For data on physical state and solubility see section 9.				
<b>Persistence and degradability</b>		Readily biodegradable This product shows a low bioaccumulation potential.				
<b>Bioaccumulative potential</b>		The product does not contain organically bound halogens which could lead to an AOX value in waste water.				
<b>Ecotoxicity</b>						
13 Disposal considerations						
<b>Responsibility of the receiver to have knowledge of national and local regulations.</b>						
<b>Methods of disposal</b>		Waste must be disposed of in accordance with national and local environmental regulations. Controlled biodegradation in waste water treatment is possible.				
14 Transport information						
<b>Regulatory information</b>	<b>UN number</b>	<b>Proper shipping name</b>	<b>Class</b>	<b>Packing group</b>	<b>Label</b>	<b>Additional information</b>
ADR/RID Class	UN 2426	Ammonium nitrate, liquid	5.1			Hazard identification number: 59 Limited quantity: LQ0 CEFIC Tremcard: 51S2426
ADNR Class	UN 2426	Ammonium nitrate, liquid	5.1			Forbidden in bulk
IMDG Class	UN 2426	Ammonium nitrate, liquid	5.1			Emergency schedules (EmS): F-H, S-Q
IATA Class	UN 2426	Ammonium nitrate, liquid	5.1			Quantity limitation passenger aircraft: forbidden Quantity limitation Cargo aircraft: forbidden

<b>15</b>	<b>Regulatory information</b>	
<b>Responsibility of the receiver to have knowledge of national and local regulations.</b>		
<b>EU regulations</b> <b>Hazard symbol</b> <b>R- and S phrases</b> <b>National Fire protection Association (U.S.A)</b>	According to EU Directives 67/548/EEC and 1999/45/EC this product does not require labelling. According to EU Directives 67/548/EEC and 1999/45/EC this product does not require labelling.	
	<p>Health 2      Flammability 0      Reactivity 3          OXY      Specific Hazard</p>	
<b>16</b>	<b>Other information</b>	
<b>Risk phrases</b> <b>Safety phrases</b> <b>Symbols</b> <b>Storage classification</b> <b>Date previous SDS</b> <b>Modifications in this version</b> <b>References</b>	- - - - 1-10-2007 Adress change DSM: WW13833	
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