SECTION 1: CHEMICAL PRODUCT and COMPANY IDENTIFICATION

Catalog No. L16755

Product Name:	**2,6-Dinitro-N,N-di-n-propyl-4-(trifluoromethyl)aniline, 97%**
Synonyms:	Treflan, Trifluralin
Manufacturer/Supplier Name:	Alfa Aesar - A Johnson Matthey Company
Address:	30 Bond St. Ward Hill, MA 01835
Business Phone:	978-521-6300
Business Fax:	978-521-6350
For information in North America, call:	978-521-6300

CHEMTREC Numbers:

For emergencies in the US, call CHEMTREC: 800-424-9300

For emergencies outside US, call INTERNATIONAL: (703)527-3887

For Nonemergency, call: (800)262-8200

To Top of page

SECTION 2 : COMPOSITION, INFORMATION ON INGREDIENTS

Catalog No. L16755

Chemical Name	2,6–Dinitro–N,N–di–n–propyl–4–(trifluoromethyl)aniline
CAS#	1582-09-8
% Weight (Typical)	97

To Top of page

SECTION 3 : HAZARDS IDENTIFICATION

Catalog No. L16755

Emergency Overview: Sensitizer. Reproductive effects. Mutation data. Irritant.

2,6–Dinitro–N,N–di–n–propyl–4–(trifluoromethyl)aniline:

Route of Exposure: Inhalation.

Potential Health Effects:

Eye Contact:	May cause eye irritation.
Skin Contact:	May cause skin irritation.
Inhalation:	Toxic by inhalation.
Ingestion:	No data

Target Organs: Eyes. Respiratory system. Reproductive System.

To Top of page

SECTION 4 : FIRST AID MEASURES

Catalog No. L16755

Eye Contact:	Immediately flush eyes with plenty of water for at least 20 minutes. Assure adequate flushing of the eyes by separating the eyelids with fingers. Get immediate medical attention if irritation persists, or symptoms of overexposure become apparent.
Skin Contact:	Immediately wash skin with plenty of water for at least 20 minutes, while removing contaminated clothing and shoes. Get medical attention especially, if irritation develops, persists, or symptoms of overexposure become apparent.
Inhalation:	Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Keep warm. Get immediate medical attention.
Ingestion:	If swallowed, call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. Do not induce vomiting unless instructed by medical personnel. Get medical attention.

To Top of page

SECTION 5 : FIRE FIGHTING MEASURES

Catalog No. L16755

Flash Point:	No data
Extinguishing Media:	Use dry powder or carbon dioxide when fighting a fire involving this material.
Unsuitable Media:	Water extinguishers are not recommended.
Protective Equipment:	As in any fire, wear self-contained breathing apparatus pressure-demand, NIOSH (approved or equivalent) and full protective gear.

To Top of page

SECTION 6 : ACCIDENTAL RELEASE MEASURES

Catalog No. L16755

Personal Precautions:	Use proper personal protective equipment as listed in section 8.
Spill Cleanup Measures:	Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Refer to section 13 for disposal requirements.
Environmental Precautions:	Do not allow material to enter drains or streams.

To Top of page

SECTION 7 : HANDLING and STORAGE

Catalog No. L16755

Handling:	This product should be handled only by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals, who should take into account the fire, health and chemical hazard data. It should always be handled in an efficient fume hood or equivalent system. The user should consider that the toxicological and physiological properties of many compounds are not yet well determined and that new hazardous products may arise from reactions between chemicals. Care should be taken to prevent any chemical from coming into contact with the skin or eyes and from contaminating personal clothing.
Storage:	Store in a cool, dry, well ventilated area away from sources of heat and incompatible substances. Keep container tightly closed when not in use.
Hygiene Practices:	Wash thoroughly after handling. Avoid contact with eyes and skin. Avoid inhaling dust.

To Top of page

SECTION 8 : EXPOSURE CONTROLS, PERSONAL PROTECTION

Catalog No. L16755

Engineering Controls:	Use appropriate engineering control such as process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Where such systems are not effective wear suitable personal protective equipment, which performs satisfactorily and meets OSHA or other recognized standards. Consult with local procedures for selection, training, inspection and maintenance of the personal protective equipment.
Skin Protection Description:	Wear suitable protective clothing to prevent contact with skin.
Hand Protection Description:	Wear appropriate protective gloves. Consult glove manufacturers for glove permeability data.
Eye/Face Protection:	Wear appropriate protective glasses or splash goggles as described by 29 CFR 1910.133, OSHA eye and face protection regulation, or the European standard EN 166.
Respiratory Protection:	A NIOSH approved air-purifying respirator with an appropriate cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited to airborne concentrations that are typically within 10 times the exposure limit. Use a positive pressure air supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHAs 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrant a respirators use.
Other Protective:	Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

To Top of page

SECTION 9 : PHYSICAL and CHEMICAL PROPERTIES

Catalog No. L16755

Physical State/Appearance:	Solid
Color:	Yellow to orange
Flash Point:	No data
Boiling Point:	139-140°C (282.2-284°F) /4.2mm
Melting Point:	47-49°C (116.6-120.2°F)
n-Octanol/water partition coefficient:	5.07
Solubility in Water:	ca 0.02 @ 20°C (68°F)
Density:	No data
Molecular Formula:	$C_{13}H_{16}F_3N_3O_4$
Molecular Weight:	335.28

To Top of page

SECTION 10 : STABILITY and REACTIVITY

Catalog No. L16755

Conditions to Avoid:	High temperatures, flames and sparks.
Incompatibilities with Other Materials:	Oxidizing agents.
Possible Decomposition Product:	Carbon monoxide. Hydrogen cyanide, oxides of nitrogen. Hydrogen fluoride.

To Top of page

SECTION 11 : TOXICOLOGICAL INFORMATION

Catalog No. L16755

2,6–Dinitro–N,N–di–n–propyl–4–(trifluoromethyl)aniline :

RTECS Number:	XU9275000
Eye Effect:	No data reported in the cited references as of the revision date.
Skin Effects:	Skin - rat LD50: >5 gm/kg (RTECS)
Ingestion Effects:	Oral - rat LD50: 1930 mg/kg [Sense Organs and Special Senses (Eye) - mydriasis (pupillary dilation) Behavioral - somnolence (general depressed activity) Skin and Appendages - hair] (RTECS); Oral - mouse LD50: 3197 mg/kg (RTECS); Oral - rabbit LD50: >2 gm/kg (RTECS)
Inhalation Effects:	Inhalation - rat LC50: 2800 mg/m3/1H (RTECS)
Chronic Skin Effects:	skin - rabbit TDLo: 21 gm/kg/21D-I Blood - changes in other cell count (unspecified) Blood - changes in leukocyte (WBC) count Blood - changes in platelet count (RTECS)
Chronic Ingestion Effects:	Oral - rat TDLo: 9937 mg/kg/26W-I Liver - other changes Blood - pigmented or nucleated red blood cells Blood - changes in leukocyte (WBC) count; Oral -rat TDLo: 154 gm/kg/2Y-C Liver - changes in liver weight Blood - pigmented or nucleated red blood cells Nutritional and Gross Metabolic - weight loss or decreased weight gain; Oral -rat TDLo: 24570 mg/kg/45D-I Blood - pigmented or nucleated red blood cells Blood - changes in serum composition (e.g. TP, bilirubin, cholesterol) Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - transaminases; Oral -rat TDLo: 35672 mg/kg/13W-C Liver - changes in liver weight Blood - pigmented or nucleated red blood cells Blood - changes in erythrocyte (RBC) count (RTECS); Oral -mouse TDLo: 394 gm/kg/2Y-C Liver - changes in liver weight Kidney, Ureter, Bladder - interstitial nephritis Kidney, Ureter, Bladder - changes in bladder weight; Oral -mouse TDLo: 54964 mg/kg/13W-C Liver - changes in liver weight Blood - methemoglobinemia-carboxyhemoglobin Blood - changes in serum composition (e.g. TP, bilirubin, cholesterol); Oral -mouse TDLo: 60060 mg/kg/1Y-C Blood - methemoglobinemia-carboxyhemoglobin Biochemical - Enzyme inhibition, induction, or change in blood or tissue levels - transaminases (RTECS)
Carcinogenicity:	Carcinogenic and equivocal tumorigenic agent by RTECS criteria.
Mutagenicity:	Human mutation data reported. (RTECS).
Teratogenicity:	Teratogenic effects. (RTECS)
Reproductive Toxicity:	Experimental teratogenic and reproductive effects (Sax)
Other Toxicological Information:	Intraperitoneal - mouse LD50: 4600 mg/kg

To Top of page

SECTION 12 : ECOLOGICAL INFORMATION

Catalog No. L16755

Ecotoxicity:	LC50 Daphnia magna 560 ug/L/48H. LC50 Carassius auratus 145 ug/L/96H/static/18°C. Very toxic to aquatic organisms (HSDB).
Bioaccumulation:	Expected to significantly bioaccumulate and/or bioconcentrate in aquatic organisms. BCF Pimephales promelas 3261 (HSDB).
Biodegredation:	Expected to be slow to biodegrade in soil and water. Vapors are rapidly photodegradable in the atmosphere, estimated half-life 276 minutes (HSDB).
Environmental Stability:	Expected to be very persistent in the environment.

To Top of page

SECTION 13 : DISPOSAL CONSIDERATIONS

Catalog No. L16755

Waste Disposal:	Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal. Furthermore, consult with your state and local waste requirements or guidelines, if applicable, to ensure compliance. Arrange disposal in accordance to the EPA and/or state and local guidelines, by a licensed disposal company.

To Top of page

SECTION 14 : TRANSPORT INFORMATION

Catalog No. L16755

DOT Shipping Name:	Environmentally hazardous substances, solid, n.o.s. (2,6-Dinitro-N,N-di-n-propyl-4-(trifluoromethyl)aniline)
DOT Hazard Class:	9
DOT Identification Number:	UN3077
DOT Packing Group:	III
DOT Subpart E Labeling Requirement:	9

To Top of page

SECTION 15 : REGULATORY INFORMATION

Catalog No. L16755

2,6–Dinitro–N,N–di–n–propyl–4–(trifluoromethyl)aniline :

TSCA 8(b): Inventory Status:	No data
Risk Phrases:	R36 Irritating to eyes. R43 May cause sensitization by skin contact.
Safety Phrase:	S24 Avoid contact with skin. S37 Wear suitable gloves.

To Top of page

SECTION 16 : ADDITIONAL INFORMATION

Catalog No. L16755

MSDS Preparation Date:	January 1, 2002, Version 1
MSDS Revision Date:	April 14, 2003.
MSDS Author:	Actio Corporation.

Disclaimer:

This Health and Safety Information is correct to the best of our knowledge and belief at the date of its publication but we cannot accept liability for any loss, injury or damage which may result from its use. We shall ensure, so far as is reasonably practicable, that any revision of this Data Sheet is sent to all customers to whom we have directly supplied this substance, but must point out that it is the responsibility of any intermediate supplier to ensure that such revision is passed to the ultimate user. The information given in the Data Sheet is designed only as a guidance for safe handling, storage and the use of the substance. It is not a specification nor does it guarantee any specific properties. All chemicals should be handled only by competent personnel, within a controlled environment.
Should further information be required, this can be obtained through the sales office whose address is at the top of this data sheet. We welcome any additional information about our products that customers have obtained by personal experience.

References:

1. American Chemical Society, STN Easy Online Database
2. Brethericks Reactive Chemical Hazards Database. Version 2.
3. Gassarett and Doulls Toxicology, The Basic Science of Poisons.
4. Hawleys Condensed Chemical Dictionary, Thirteenth Edition
5. IARC monographs on the Evaluation of the Carcinogenic Risk of Chemicals to Man, WHO International Research on Cancer.

6. Industrial Hygiene and Toxicology, by F.A. Patty.
7. National Library of Medicine, Department of Health and Human Services, Hazardous Substances Data Bank (HSDB).
8. National Toxicology Program (NTP) Eighth Report on Carcinogens, 1997.
9. NIOSH Registry of Toxic Effects of Chemical Substances (RTECS) and Pocket Guide to Chemical Hazards.
10. OSHA Hazard Communication Standard, 1910.1200 and Z Tables.
11. Sax Dangerous Properties of Industrial Materials. Tenth Edition.
12. The Merck Index: An Encyclopedia of Chemicals and Drugs. Merck and Company. Twelfth Edition 1998.
13. Threshold Limit Values for Chemical Substances and Physical Agents in the Work Environmental and Biological Exposure Indices. TLV Booklet, 2001.

To Top of page