

Product code	6527-A	Page 1 of 12
Product name	AUTHORITY® 480SC	
		February 2019
		Supersedes June 2018

SAFETY DATA SHEET Authority[®] 480 SC

Revision: Sections containing a revision or new information are marked with a .

♦ SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1.	Product identifier	Authority [®] 480 SC Contains toluene
1.2.	Relevant identified uses of the substance or mixture and uses advised against	Can be used as herbicide only.
1.3.	Details of the supplier of the safety data sheet	CHEMINOVA A/S , a subsidiary of FMC Corporation Thyborønvej 78 DK-7673 Harboøre Denmark <u>SDS.Ronland@fmc.com</u>
	Local contact (South Africa) -	<i>FMC Chemicals (Pty) Ltd</i> Pegasus Building 1, Floor 2 210 Amarand Ave Menlyn Pretoria, 0181 South Africa
1.4.	Emergency telephone number	For any emergency or poisoning contact: Griffon Poison Information Centre (24 hrs) +27-(0)-82-446-8946

For fire, leak, spill or other accident emergencies +1 703 / 527 3887 (CHEMTREC - Collect)

♣ SECTION 2: HAZARDS IDENTIFICATION

2.1.	Classification of the substance or mixture	Toxic to reproduction: Category 2 (H361d)	
	WHO classification	Class III, slightly hazardous	
	Health hazards	The product contains toluene, which is suspected of damaging the unborn child.	
	Environmental hazards	The product is not expected to be toxic to aquatic organisms.	

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2.2.	Label elements According to EU Reg. 1272/2008 a	s amended
	Product identifier	Authority® 480SC Contains toluene
	Hazard pictogram (GHS08)	
	Signal word	Warning
	Hazard statement H361d	Suspected of damaging the unborn child.
	Supplementary hazard statement EUH401	To avoid risks to human health and the environment, comply with the instructions of use.
	Precautionary statements P201 P202	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
	P280 P308+P313 P405 P501	Wear protective gloves, protective clothing and eye protection. IF exposed or concerned: Get medical attention/advice. Store locked up. Dispose of contents/container as hazardous waste.
2.3.	Other hazards	None of the ingredients in the product meets the criteria for being PBT or vPvB.

★ SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1.	1. Substances The product is a mixture, not a substance	
3.2.	Mixtures	See section 16 for full text of hazard statements.
	<u>Active ingredient</u>	
	Sulfentrazone	Content: 40% w/w
	CAS name	Methanesulfonamide, N-[2,4-dichloro-5-[4-(difluormethyl)-4,5- dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-
	CAS no.	122836-35-5
	EU name	Methanesulfonamide, N-[2,4-dichloro-5-[4-(difluormethyl)-4,5- dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]-
	Chemical names	N-(2,6-Dichloro-3-(4-(difluormethyl)-3-methyl-5-oxo-4,5-dihydro- 1H-1,2,4-triazol-1-yl)phenyl)methanesulfonamide N-[2,4-Dichloro-5-(4-(difluormethyl)-3-methyl-5-oxo-4,5-dihydro- [1,2,4] triazol-1-yl)phenyl]methanesulfonamide
	ISO-name	Sulfentrazone
	EC no. (EINECS no.)	None
	EU index no.	None
	Molecular weight	378.2
	Classification of the ingredient	Acute inhalation toxicity: Category 4 (H332)

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<u>1</u>	<u>Reporta</u>	able ingredients	Content (% w/w)	CAS no.	EC no. (EINECS no.)	Classification
		-1,2-diol . 01-2119456809-23	5 - 10	57-55-6	200-338-0	Not classified
	Toluene Reg. no	. 05-2114615130-69	1 - 5	108-88-3	203-625-9	Flam. Liq. 2 (H225) Skin Irrit. 2 (H315) Repr. 2 (H361d) Asp. Tox. 1 (H304) STOT SE 3 (H336) STOT RE 2 (H373)
♣ SEC	TION	4: FIRST AID MEASURES				
4.1. I	Descrin	tion of first aid measures				
	-	on	Light cases immediate	: Keep person y if symptom	under surveillanc	y remove from exposure. e. Get medical attention cases: Get medical nce.
S	Skin coi	ntact		Wash with w		g and footwear. Flush skin medical attention if
Η	Eye con	tact	occasional Remove co	y opening eye	elids, until no evide fter a few minutes	eyewash solution, ence of chemical remains. and rinse again. Get
Ι	Ingestio	n	or milk, bu	t not induce v	omiting. If vomitir	nk several glasses of water ng does occur, let him/her dical attention immediately
		nportant symptoms and both acute and delayed	None knov	vn		
		ion of any immediate attention and special	Immediate	medical atten	tion is required in	case of ingestion.
		ent needed	It may be h	elpful to show	v this safety data sl	neet to physician.
1	Notes to	physician	lavage and	or the admini	stration of activate	erial is not known. Gastric d charcoal can be nt should be directed at the

5.1.	Extinguishing media	Dry chemical or carbon dioxide for small fires, water spray or foam for large fires. Avoid heavy hose streams.
5.2.	Special hazards arising from the substance or mixture	The essential breakdown products are volatile, malodorous, toxic, irritant and inflammable compounds such as hydrogen chloride,
		hydrogen fluoride, nitrogen oxides, sulphur dioxide, carbon monoxide,
		carbon dioxide and various chlorinated and fluorinated organic

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compounds.

5.3.	Advice for firefighters	Use water spray to keep fire-exposed containers cool. Approach fire from upwind to avoid hazardous vapours and toxic decomposition products. Fight fire from protected location or maximum possible distance. Dike area to prevent water runoff. Firemen should wear self- contained breathing apparatus and protective clothing.

***** SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1.	Personal precautions, protective equipment and emergency procedures	It is recommended to have a predetermined plan for the handling of spills. Empty, closable vessels for the collection of spills should be available.
		In case of large spill (involving 10 tonnes of the product or more): 1. use personal protection equipment; see section 8 2. call emergency telephone no.; see section 1 3. alert authorities.
		Observe all safety precautions when cleaning up spills. Use personal protection equipment. Depending on the magnitude of the spill this may mean wearing respirator, face mask or eye protection, chemical resistant clothing, gloves and rubber boots.
		Stop the source of the spill immediately if safe to do so.
6.2.	Environmental precautions	Contain the spill to prevent any further contamination of surface, soil or water. Wash waters must be prevented from entering surface water drains. Uncontrolled discharge into water courses must be alerted to the appropriate regulatory body.
6.3.	Methods and materials for containment and cleaning up	It is recommended to consider possibilities to prevent damaging effects of spills, such as bunding or capping. See GHS (Annex 4, Section 6).
		If appropriate, surface water drains should be covered. Minor spills on the floor or other impervious surface should be absorbed onto an absorptive material such as universal binder, Fuller's earth or other absorbent clays. Collect the contaminated absorbent in suitable containers. Clean area with detergent and much water. Absorb wash liquid with absorbent and transfer to suitable containers. The used containers should be properly closed and labelled.
		Large spills which soak into the ground should be dug up and transferred to suitable containers.
		Spills in water should be contained as much as possible by isolation of the contaminated water. The contaminated water must be collected and removed for treatment or disposal.
6.4.	Reference to other sections	See subsection 8.2. for personal protection. See section 13 for disposal.

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SECTION 7: HANDLING AND STORAGE

7.1.	Precautions for safe handling	In an industrial environment it is recommended to avoid all personal contact with the product, if possible by using closed systems with remote system control. The material should be handled by mechanical means as much as possible. Adequate ventilation or local exhaust ventilation is required. The exhaust gases should be filtered or treated otherwise. For personal protection in this situation, see section 8.
		For its use as a pesticide, first look for precautions and personal protection measures on the officially approved label on the packaging or for other official guidance or policy in force. If these are lacking, see section 8.
		Remove contaminated clothing immediately. Wash thoroughly after handling. Before removing gloves, wash them with water and soap. After work, take off all work clothes and footwear. Take a shower, using water and soap. Wear only clean clothes when leaving job. Wash protective clothing and protective equipment with water and soap after each use.
		Do not discharge to the environment. Do not contaminate water when disposing of equipment wash waters. Collect all waste material and remains from cleaning equipment, etc., and dispose of as hazardous waste. See section 13 for disposal.
7.2.	8 /	The product is stable under normal conditions of warehouse storage.
	including any incompatibilities	Store in closed, labelled containers. The storage room should be constructed of incombustible material, closed, dry, ventilated and with impermeable floor, without access of unauthorised persons or children. A warning sign reading "POISON" is recommended. The room should only be used for storage of chemicals. Food, drink, feed and seed should not be present. A hand wash station should be available.
7.3.	Specific end use(s)	The product is a registered pesticide which may only be used for the applications it is registered for, in accordance with a label approved by the regulatory authorities.

★ SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1.	Control parameters Personal exposure limits		To our l product	knowledge not established for the active ingredient in this
	Propane- 1,2-diol	AIHA (USA) WEEL MAK (Germany) HSE (UK) WEL	Year 2015 2014 2011	10 mg/m ³ Cannot be established at present 8-hr TWA 150 ppm (474 mg/m ³), total (vapour and particulates) 10 mg/m ³ (particulates)
	Toluene	ACGIH (USA) TLV	2015	TWA 20 ppm (75 mg/m ³)

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	OSHA (USA) PEL EU, 2000/39/EC as amended	2015 2009	BEI TWA 200 ppm CEILING 300 ppm 10 Min. peak per 8-hr shift: 500 ppm 8-hr TWA 50 ppm (192 mg/m ³) Peak level 100 ppm (384 mg/m ³); max. duration 15 min.	
	Germany, MAK	2014	Skin notation TWA 50 ppm (190 mg/m ³) Peak level 200 ppm (760 mg/m ³)	
	HSE (UK) WEL	2011	Skin notation; BAT 8-hr TWA 50 ppm (191 mg/m ³) STEL 100 ppm (384 mg/m ³); 15-minute reference period Skin notation	
			er, personal exposure limits defined by local regulations may d must be observed.	
•		0.014 m 1.9 μg/l	g/kg bw/day	
Propane-1,2-diol DNEL, inhalation, systemic DNEL, inhalation, local PNEC, fresh water PNEC, marine water		183 mg/m ³ 10 mg/m ³ 260 mg/l 26 mg/l		
DNEL, inhalation	n nvironment	384 mg/ 192 mg/ 0.68 mg		
Exposure controls		When used in a closed system, personal protection equipment will not be required. The following is meant for other situations, when the use of a closed system is not possible, or when it is necessary to open the system. Consider the need to render equipment or piping systems non- hazardous before opening.		
		the undi	cautions mentioned below are primarily meant for handling of luted product and for preparing the spray solution, but can be ended for spraying as well.	
			of incidental high exposure, maximal personal protection may ssary, such as respirator, face mask, chemical resistant s.	
Re	spiratory protection	concern discharg workers	duct does not automatically present an airborne exposure when handled carefully, but in the event of an accidental ge of the material which produces a heavy vapour or mist, must put on officially approved respiratory protection ent with a universal filter type including particle filter.	

8.2.

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	Protective gloves	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber. The breakthrough times of these materials for the product are unknown, but it is expected that they will give adequate protection. It is recommended to limit the amount of work to be done manually.
\bigcirc	Eye protection	Wear safety glasses. It is recommended to have an eye wash fountain immediately available in the workplace when there is a potential for eye contact.
	Other skin protection	Wear appropriate chemical resistant clothing to prevent skin contact depending on the extent of exposure. During most normal work situations where exposure to the material cannot be avoided for a limited time span, waterproof pants and apron of chemical resistant material or coveralls of polyethylene (PE) will be sufficient. Coveralls of PE must be discarded after use if contaminated. In cases of excessive or prolonged exposure, coveralls of barrier laminate may be required.

▲ SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on physical and chemical properties

	A maximum as	Off white lines d	
	Appearance	Off-white liquid	
	Odour	Faint smell of alcohol	
	Odour threshold	Not determined	
	рН	5.3 - 6.0	
	Melting point/freezing point	123°C	
	Initial boiling point and boiling range	Not determined	
	Flash point	> 94°C (Tag closed cup)	
	Evaporation rate	Not determined	
	Flammability (solid/gas)	Not applicable (liquid)	
	Upper/lower flammability or		
	explosive limits	Not determined	
	Vapour pressure	Sulfentrazone	: 1.1 x 10 ⁻⁷ Pa
	Vapour density	Not determined	
	Relative density	1.206 at 20°C	
	Solubility(ies)	Solubility of sulfentrazon	ie in
		acetonitrile	18.6% w/w
		water	400 g/l
	Partition coefficient n-octanol/water	Sulfentrazone	: $\log K_{ow} = 1.49$ at pH 5
	Autoignition temperature	Not determined	108 10w 1119 at pire
	Decomposition temperature	Not determined	
	Viscosity	Not determined	
	Explosive properties	Not explosive	
	Oxidising properties	Not oxidising	
	Oxidising properties	Not Oxidising	
2.	Other information		
	Miscibility	The product is dispersible	in water.

10.1. **Reactivity** To our knowledge, the product has no special reactivities.

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10.2. Ch	emical stability	The product is stable during normal handling and storage at ambient temperatures.	
10.3. Pos	ssibility of hazardous reactions	None known.	
10.4. Co	nditions to avoid	Heating of the product will evolve harmful and irritant vapours.	
10.5. Inc	ompatible materials	None known.	
10.6. Ha	zardous decomposition products	See subsection 5.2.	
♣ SECTION 11: TOXICOLOGICAL INFORMATION			

11.1. **Information on toxicological effects** * = Based on available data, the classification criteria are not met.

<u>Product</u> Acute toxicity		The product is not considered as harmful by single exposures. * The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD ₅₀ , oral, rat: 2084 mg/kg
	- skin	LD ₅₀ , dermal, rabbit: > 2000 mg/kg
	- inhalation	LC_{50} , inhalation, rat: > 2.72 mg/l/4 h
Skin corrosion/irrita	tion	Minimally irritating to skin. *
Serious eye damage	/irritation	Not irritating to eyes. *
Respiratory or skin	sensitisation	Did not cause skin sensitisation in laboratory animals. *
Germ cell mutageni	city	The product contains no ingredients known to be mutagenic. *
Carcinogenicity		The product contains no ingredients known to be carcinogenic. *
Reproductive toxicity		Case studies on toluene exposure of pregnant women provide evidence of developmental toxicity and increased risk for late spontaneous abortions at inhalation dose level 88 ppm (330 mg/m ³).
STOT – single expo	osure	To our knowledge, no specific effects have been observed after single exposure. *
STOT – repeated exposure		The following was measured on the active ingredient sulfentrazone : Target organs: nervous system and development of offspring LOAEL: 33 mg/kg bw/day in a 2 generation development study, based on decreased body weight of offspring. *
Aspiration hazard		The product does not present an aspiration pneumonia hazard. *
Symptoms and effect delayed		None known
<u>Sulfentrazone</u> Toxicokinetics, met distribution	abolism and	Sulfentrazone is rapidly absorbed after oral administration and nearly completely excreted within 72 hours. There is no evidence of accumulation.

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Acute toxicity		The substance is not considered as harmful. * The acute toxicity of the substance is measured as:
Route(s) of entry	- ingestion	LD ₅₀ , oral, rat: 2689 mg/kg
	- skin	LD ₅₀ , dermal, rat: > 2000 mg/kg
	- inhalation	LC_{50} , inhalation, rat: > 4.13 mg/l/4 h
Skin corrosion/irritation		Not irritating to skin. *
Serious eye damage/	irritation	Mildly irritating to eyes. *
Respiratory or skin s	sensitisation	Not sensitising to guinea pig. *
<u>Toluene</u> Acute toxicity		The substance is not considered as harmful by single exposure. * The acute toxicity is measured as:
Route(s) of entry	- ingestion	LD ₅₀ , oral, rat: 5580 mg/kg (method EU guideline B1)
	- skin	LD ₅₀ , dermal, rat: 12400 mg/kg
	- inhalation	LC_{50} , inhalation, rat: 28.1 mg/l/4 h (method EU guideline B2)
Skin corrosion/irritation		Irritating to skin (several studies).
Serious eye damage/irritation		Slightly irritating to eyes (method OECD 405). *
Respiratory or skin sensitisation		Not a skin sensitizer (method EU guideline B6). To our knowledge, no indications of respiratory sensitisation have been reported. *

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity	The product is very toxic to algae and aquatic plants. It is considered	
	as non-toxic to fish, aquatic invertebrates, soil micro- and macro-	
	organisms, birds and insects.	

The following has been measured on the active ingredient sulfentrazone:

- Fish	Rainbow trout (<i>Oncorhynchus mykiss</i>)	120 mg/l EC: 2.95 mg/l
- Invertebrates	Daphnids (<i>Daphnia magna</i>)	U
- Algae	Green algae (Pseudokirchneriella subcapitata) 120-h EC50:	0.031 mg/l
	Diatoms (Navivula pelliculosa) 120-h EC50:	0.042 mg/l
- Plants	Duckweed (<i>Lemna gibba</i>) 14-day EC ₅₀ 14-day NOA	0.0288 mg/l EL: 0.019 mg/l
- Birds	Mallard duck (Anas platyrhynchos) LD ₅₀ : > 5620) mg/kg
- Bees	Honey bees (<i>Apis mellifera</i>) LD ₅₀ , acute o LD ₅₀ , contac	oral: > 25 μg/bee t: > 200 μg/bee

12.2. Persistence and degradability Sulfentrazone is not readily biodegradable. Primary degradation half-

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		lives in the environment are usually around in soil. The product contains small amounts of oth	er ingredients which are not
		readily biodegradable and may not be degr treatment plant.	adable in a waste water
12.3. Bioacc	umulative potential	See section 9 for octanol-water partition co	pefficient.
		Bioaccumulation is not expected for sulfer	ntrazone.
12.4. Mobili	ty in soil	Sulfentrazone has a potential for being me	obile in the environment.
	s of PBT and vPvB nent	None of the ingredients meets the criteria f	for being PBT or vPvB.
12.6. Other	adverse effects	Other relevant hazardous effects in the environment are not known.	
♣ SECTION	13: DISPOSAL CONSIDER	ATIONS	
13.1. Waste treatment methods		Remaining quantities of the material and e should be regarded as hazardous waste.	mpty but unclean packaging
		Disposal of waste and packagings must alw all applicable local regulations.	ways be in accordance with
Disposal of product		According to the Waste Framework Direct possibilities for reuse or reprocessing shou is not feasible, the material can be disposed licensed chemical destruction plant or by c flue gas scrubbing.	ld first be considered. If this d of by removal to a
		Do not contaminate water, foodstuffs, feed disposal. Do not discharge to sewer system	
Dispos	al of packaging	 It is recommended to consider possible wa following order: 1. Reuse or recycling should first be considerecycling, containers must be emptied and equivalent). Do not discharge rinsing wate 2. Controlled incineration with flue gas scr combustible packaging materials. 3. Delivery of the packaging to a licensed shazardous waste. 4. Disposal in a landfill or burning in open last resort. For disposal in a landfill contain completely, rinsed and punctured to make purposes. If burned, stay out of smoke. 	dered. If offered for triply rinsed (or r to sewer systems. ubbing is possible for service for disposal of air should only occur as a ners should be emptied

SECTION 14: TRANSPORT INFORMATION

ADR/RID/IMDG/IATA/ICAO classification

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14.2.	UN proper shipping name	Environmentally hazardous substance, solid, n.o.s. (sulfentrazone)	
14.3.	Transport hazard class(es)	9	
14.4.	Packing group	III	
14.5.	Environmental hazards	Marine pollutant	
14.6.	Special precautions for user	Avoid any unnecessary contact with the product. Misuse can result in damage to health. Do not discharge to the environment.	
	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code	The product is not transported in bulk by ship.	
♣ SE	CCTION 15: REGULATORY INFORM	AATION	
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture	Seveso category (Dir. 2012/18/EU): dangerous for the environment. The employer shall assess any risks to the safety or health and any possible effect on the pregnancies or breastfeeding of workers and decide what measures should be taken (Dir. 92/85/EEC).	
		Young people under the age of 18 are not allowed to work with the product.	
15.2.	Chemical safety assessment	A chemical safety assessment is not required to be included for this product.	
▲ SF	ECTION 16: OTHER INFORMATION	I	
OI		·	
	Relevant changes in the safety data sheet	Numerous changes have been made to adapt the format of the safety data sheet, but these do not concern new information on hazardous properties.	
	List of abbreviations	ACGIHAmerican Conference of Governmental Industrial HygienistsAIHAAmerican Industrial Hygiene AssociationBATBiologische Arbeitsstoff-ToleranzwertBEIBiological Exposure IndexCASChemical Abstracts ServiceDir.DirectiveDNELDerived No Effect LevelECEuropean CommunityErC5050% Effect Concentration based on growthEINECSEuropean INventory of Existing Commercial Chemical SubstancesGHSGlobally Harmonized classification and labelling System of chemicals, Fifth revised edition 2013HSEHealth & Safety Executive, UKIBCInternational Bulk Chemical codeIUPACInternational Union of Pure and Applied ChemistryLC5050% Lethal ConcentrationLD5050% Lethal Dose	

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	MAK	
References	Data measured on this product are unpublished company data. Data on ingredients are available from published literature and can be found several places.	
Method for classification	Calculation rules	
Used hazard statements	H225 H304 H315 H332 H336 H361d H373 EUH401	Highly flammable liquid and vapour. May be fatal if swallowed and enters airways. Causes skin irritation. Harmful if inhaled. May cause drowsiness or dizziness. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure. To avoid risks to human health and the environment, comply with the instructions of use.
Advice on training	This material should only be used by persons who are made aware of its hazardous properties and have been instructed in the required safety precautions.	

The information provided in this safety data sheet is believed to be accurate and reliable, but uses of the product vary and situations unforeseen by FMC Corporation may exist. The user has to check the validity of the information under local circumstances.

Prepared by: FMC Corporation / Cheminova A/S / GHB