TSAKER
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StockCode:1986.HK

COLOR THE WORLD

PRODUCT MANUAL
OF DYE INTERMEDIATES BU
染料事业部产品手册

LEADING DYE / PIGMENT / PESTICIDE INTERMEDIATES PRODUCER

全球领先的染料/颜料/农药中间体生产商

TSAKER
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STOCK CODE:1986.HK

- Tsaker (primitive name: Huage chemicals) is a company listed on Hong Kong Exchange main board (Stock Code: 1986). Tsaker is a leading producer of a number of the chemicals that function as critical dye, pigment and pesticide intermediates in the world. Our group has 1600 employees with headquarter located in Beijing.

- Our company has five business segments which is including dye, pigment, mononitrotoluene, lithium battery materials and green environmental protection technology business. We have the largest DSD acid, DMSS production base in the world, and the world's third largest mononitrotoluene production base. Facing such a huge market of green energy market, Tsaker actively take a market share by manufacturing lithium battery materials. Meanwhile, our environmental protection technology business began to provide resolution of environmental protection services including waste water, solid waste and air pollution treatment, leveraging on our own technology developed in so many years.

- With excellent product quality, product consistency and strict safety and environmental protection controls, we have made our name throughout the world. Tsaker has been working closely with many global chemical companies such as Archroma, BASF, Indulor, Sun Chemical and etc.

OUR PRODUCTS

Dye Intermediates:
DSD Acid、DNTS

Optical Brightening Agent:
BA、CXT、VBL、DMS、AMS

Pigment Intermediate:
DMSS、DATA、TCCBM、
DMS、DIPS、DMAS、CHO

Pesticide Intermediates:
PNT、ONT、OT、
MNT、GBL、NMP

Batteries Material:
FP、NMP

AWARDS AND HONORS

"Color the world" and "Green Chemicals" are the core concept and mission for Tsaker.
Tsaker has been focusing on technologies and innovations for low energy production and recyclable products. We care about people's health and safety. We have acquired certificates listed below:

- Quality Management System ISO9001
- Environmental Management System ISO14001
- Occupational Health Safety Management System GB/T28001-2011
- High and New Technology Enterprise
- Governing Member of China Dyestuff Industry Association
- Awarded the CMA certificate

0317-7750938
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彩客化学
为世界添彩

股份代号：1986.HK

- 彩客化学（原华戈化学）为香港主板上市企业（股份代号：1986. HK），也是全球行业内知名的染料/颜料/农药中间体生产商，公司总部位于北京，现拥有1600名员工。

- 公司分设染料/颜料/一硝/电池材料/环保五个事业部，拥有全球最大的DSD酸、DMSS酯生产基地、全球三大一硝基甲苯生产基地，面对广阔的绿色能源市场、彩客积极抢滩锂电新能源电池材料市场，同时在环保业务领域凭借先进的环保技术及工艺对外提供一条龙的废水、固废及大气的污染的环保解决方案。

- 凭借优秀的产品质量、良好的产品一致性、严格的安全环保措施，彩客的伙伴遍及全球。
  彩客化学与世界及国内知名的化工公司昂高、巴斯夫、Indulor、太阳化学、传化等主要客户建立了长期合作关系。

彩客产品

染料中间体系列：
DSD酸、DNTS

荧光增白剂系列：
BA、CXT、VBL、DMS、AMS

颜料中间体系列：
DMSS、DATA、TCCBM、DMS、DIPS、DMAS、CHO

农药中间体及其他：
PNT、ONT、OT、MNT
NMP、GBL

电池材料领域：
磷酸铁（FP）、NMP

荣誉认可

彩客以“为世界添彩”为核心，以“绿色化学倡导者”为使命。专注于生产低能耗技术和可回收资源循环利用技术等方面的创新研发；关注人的安全与健康，截止到目前我们获得以下荣誉及认可：

- ISO9001:2008 质量管理体系认证
- ISO14001:2004 环境管理体系认证
- B/T28001-2011 职业健康及安全管理体系
- 高新技术企业
- 中国染料工业协会理事单位
- 获得CMA计量认证证书

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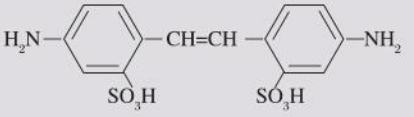
DSD ACID

Commodity Name: DSD Acid
Chemical Name: 4,4′ - Diaminostilbene-2,2′ - Disulfonic Acid

81–11–8	$C_{14}H_{14}N_2O_6S_2$	370.4
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality	
	Paste	Powder
Appearance	Light yellow	Light yellow
Contents of Amino %	≥60.0	≥95.0
Benzyl value %	≤0.5	≤0.3
Insoluble in Alkali %	≤0.1	≤0.1
Moisture %	-	≤2.0

Usage:
Used in manufacture of fluorescent whitening agent, direct chrysophenine G, direct yellow R and used as insecticide.

Package:
For powder: 25kg net poly-woven bags or as customers' requirements.
For paste: 40kg net poly-woven bags or as customers' requirements.

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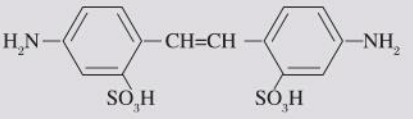
DSD 酸

商品名称:DSD酸
化学名称：4,4′-二氨基二苯乙烯-2,2′-二磺酸

81-11-8	$C_{14}H_{14}N_2O_6S_2$	370.4
CAS号	化学式	分子量

结构式：



技术指标：

项目	指标	
	潮品	干品
外观	淡黄色膏状物	浅黄色粉末
总氨基值%	≥60.0	≥95.0
苯基物%	≤0.5	≤0.3
碱不溶物%	≤0.1	≤0.1
水分%	-	≤2.0

主要用途：

用于生成荧光增白剂、直接冻黄G和直接黄R，并用做杀虫剂。

包装：

干品D酸25kg塑编袋或按用户要求；湿品D酸40kg塑编袋或按客户要求。

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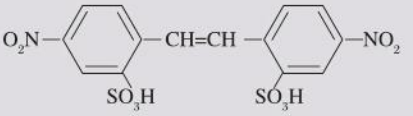
4,4′ -DINITROSTILBENE-2,2′ -DISULFONIC ACID

Chemical name：4,4′ -Dinitrostilbene-2,2′ -Disulfonic Acid

128-42-7	$C_{14}H_{10}N_2O_{10}S_2$	430
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Item	Index of quality
Contents(on basis of total sample) %	≥65.0
Insoluble in water (on basis of total sample) %	≤1.0

Usage:

It is a kind of dyes intermediates. Can be used in manufacture of DSD Acid.

Package:

25kg net poly-woven bags or as customers' requirements.

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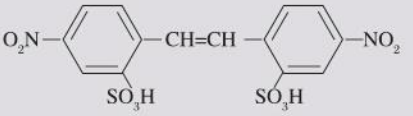
4,4′-二硝基二苯乙烯-2,2′-二磺酸(DNS)

化学名称：4,4′-二硝基二苯乙烯-2,2′-二磺酸

128-42-7	$C_{14}H_{10}N_2O_{10}S_2$	430
CAS号	化学式	分子量

结构式：



技术指标：

项目	指标
含量（按干品样品总量计） %	≥65.0
水不溶物（按干品总量计） %	≤1.0

主要用途：

是一种染料中间体，可以用来合成DSD酸。

包装：

25kg塑编袋或按客户要求。

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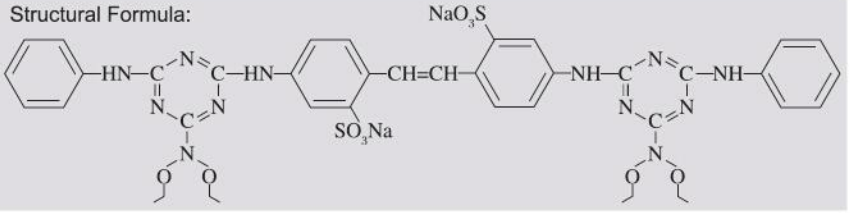
OPTICAL BRIGHTENING AGENT BA

(C.I.113)

12768-92-2	$C_{40}H_{42}N_{12}O_{10}S_2Na_2$	960.95
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality
Appearance	Light yellow uniform powder
Fluorescent intensity（equivalent to standard E370）	100±3
Colour	Approximate-slightly different
Moisture	≤5%
Insoluble impurity in water	≤0.5%
Fineness(Residue on 180μm sieve)	≤10%

Characteristics and advantages:

The product is easily dissolved and has good acid and alkali resistance. It can be bathed with anionic and nonionic surfactant, and has better brightening effect than VBL under PH 4.5-7.

Application fields:

Mainly used for pulp whitening, surface sizing and coating, also can be used in the whitening of cotton, linen and cellulose fiber fabrics and light color fabrics.

Usage：

When used in the whitening of paper, after dissolving in 20 times of water, then added into wood-pulp, coating or surface sizing agent. Suggestion dosage: 0.1-0.3% of oven dry pulp or paint.

When used in the whitening of cotton, linen and cellulose fiber, add this product into dye vat, then it can be used after dissolution in water. Dosage: 0.08-0.3%, bath ratio: 1:20-40%; dye bath temperature: 60-100°C.

Package:

As customers' requirements.

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荧光增白剂 BA

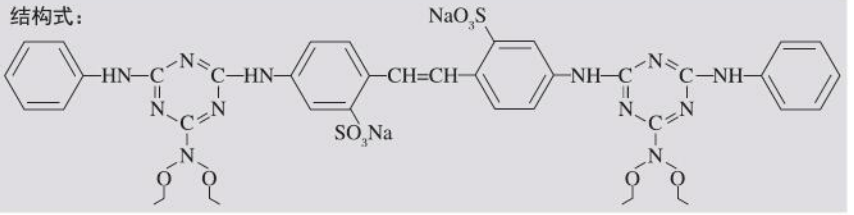
C.I.荧光增白剂113

12768-92-2
CAS号

$C_{40}H_{42}N_{12}O_{10}S_2Na_2$
化学式

960.95
分子量

结构式：



技术指标：

项目	指标
外观	淡黄色均匀粉末
荧光强度（相当于标准品E370）	100±3
色光	近似-微
水份	≤5%
不溶于水的杂质含量	≤0.5%
细度(通过180μm孔径筛的残余物)	≤10%

性能及特点：

本品易溶解，耐酸、耐碱性能好，在PH4. 5-7时增白效果明显好于VBL，可与阴离子或非离子型表面活性剂同浴。

适用范围：

主要用于纸浆的增白，表面施胶、涂布等工艺中，也可用于棉麻、纤维素纤维织物的增白，浅色纤维织物的增艳。

使用方法：

1、在造纸行业中用20倍的水将物料溶解后加入纸浆或涂布、表面施胶剂中，常规用量为绝干纸浆或绝干涂料的0.1-0.3%。

2、用于棉、麻、纤维素纤维增白时将增白剂加入染缸，用水溶解即可使用。用量：0.08-0.3%、浴比：1:20-40%、 染浴温度:60-100°C。

包装：

按客户要求包装。

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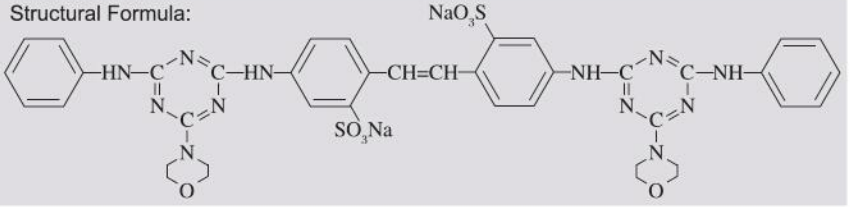
OPTICAL BRIGHTENING AGENT CXT

(C.I. 71)

16090-02-1	$C_{40}H_{38}N_{12}Na_2O_8S_2$	924.91
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality
Appearance	White or Light yellow uniform powder
Fluorescent intensity（equivalent to standard E370）	100±3
Colour	Approximate-slightly different
Moisture	≤5%
Insoluble impurity in water	≤0.5%

Characteristics and advantages:
CXT is regarded as a high-quality optical brightener for production of detergent. It is anionic and its fluorescent color is cyan. CXT has better resistant to chlorine bleaching than VBL and 31#. The best Dye bath PH is 7-10, light fastness is grade four. Due to the introduction of morpholine in its molecule, CXT has been improved in many aspects. In addition to better resistance against acid, its resistance against perborate has been significantly improved and it is suitable for whitening of cellulosic fiber, nylon and fabrics.
When used for production of detergent powder, its most conspicuous advantages are blending with higher proportion, high accumulated whitening effect and the ability to meet detergent industry's requirement of various proportions of blending.

Application fields:
Recommended for detergent, it can yield intense whitening effect and improve visual effect for synthetic detergent powder and soap.
Suitable for whitening cotton fiber, nylon and other fabrics, it can produce excellent whitening effect on artificial fiber, polyamide and vinylon. It is also suitable for whitening of azelon and aminoplastics.

Usage:
CXT is less soluble in water than VBL and 31#, adjusted to 10% suspension with hot water for use. The suspension should be used immediately and direct sunlight should be avoided.
Suggested dosage is 0.1-0.5% in washing powder, 0.1-0.3% in printing and dyeing industry.

Package:
As customers' requirements.

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荧光增白剂 CXT

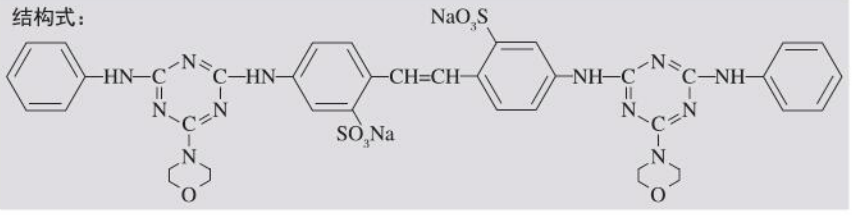
C.I.荧光增白剂71

16090-02-1
CAS号

$C_{40}H_{38}N_{12}Na_2O_8S_2$
化学式

924.91
分子量

结构式：



技术指标：

项目	指标
外观	白色至淡黄色均匀粉末
荧光强度（相当于标准品E370）	100±3
色光	近似-微
水份	≤5%
不溶于水的杂质含量	≤0.5%

性能及特点：

1、荧光增白剂CXT是一种目前被认为用于生产洗涤剂的优良增白剂，其电离性表现为阴离子性质，荧光色调为青光；

2、荧光增白剂CXT的耐氯漂性能较好，优于VBL和31#，使用最佳染浴的PH=7-10，其耐晒牢度为4级；

3、由于这种增白剂分子中引入吗啉基因，使其许多性能得到改善。改善了耐酸性能同时也提升了耐过硼酸盐性能，特别适用于纤维素纤维、聚酰胺纤维及织物的增白；

4、CXT用于洗衣粉中最大特点是:配合量高，积累洗涤白度高，能满足洗涤剂工业任何配合量的要求。

适用范围：

1、适用于洗涤剂，配入合成洗衣粉、肥皂、香皂中，能使其外观洁白悦目、晶莹丰满；

2、用于棉纤维、尼龙等织物增白，对人造纤维、聚酰胺、维尼纶有有优良的增白效果；对蛋白纤维、氨基塑料也有良好的增白作用。

使用方法：

荧光增白剂CXT在水中的溶解度比增白剂VBL和31#低，可用热水调成10%左右的悬浊液使用。配成溶液时，宜随配随用，溶液应避免阳光直射。荧光增白剂CXT在洗衣粉中用量为0.1-0.5%；在印染行业用量0.1-0.3%。

包装：

按客户要求包装。

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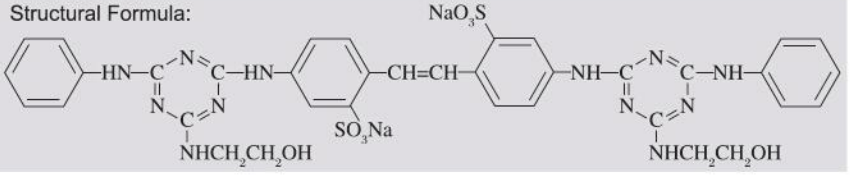
OPTICAL BRIGHTENING AGENT VBL

(C.I. 85)

12224-06-5	$C_{36}H_{34}N_{12}Na_2O_8S_2$	872.84
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality	
	For textile	For paper
Appearance	Light yellow or yellow uniform powder	
Fluorescent intensity	100±3	
Colour	Approximate-slightly different	——
Whiteness (Difference with the standard)	——	≥-3
Moisture	≤5%	
Insoluble impurity in water	≤0.5%	
Fineness (Residue on 250μm sieve)	≤10%	
23 types of hazardous aromatic amines limit(mg/kg)	Conform to GB19601-2004 standard	

Characteristics and advantages:

VBL is a typical bis(triazinyl) optical brightener which can dissolve in 80 times of soft water. It is anionic and its fluorescent color is blue-purple (slightly purple). VBL's resistance to acid and alkali is PH=6-11 and the recommended bathing PH is 8-9.

In acid solution, the fluorescence will wane and turn into yellow due to higher acidity. It is resistant to hard water (300ppm Max), resistant to free chlorine (0.25% Max), but not resistant to metal ion such as copper and iron. It is also stable with sodium hydrosulfite, but not resistant to high-temperature baking.

It can be used in one bath together with anionic surfactant/dye, nonionic surfactant and hydrogen peroxide; not suitable with cationic dye/surfactant and synthetic resin finishing agent in one bath.

Application fields:

Used for the whitening of white cotton and viscose fiber products, brightening of light-colored or printing products. Average light fastness and levelness, good affinity with cellulosic fiber, suitable for printing, dyeing, pad dyeing and printing paste.

Used for the whitening of vinylon and polyamide products.

Used in papermaking industry, whitening of pulp or paints.

Usage:

Printing and dyeing industry: put the VBL into dye vat directly and dissolve it with water. Dosage: 0.08-0.3%, bath ratio: 1:40, best dye bath temperature:60°C.

Papermaking industry: dissolve the VBL in 80 times of water and put it into pulp or paints. Dosage: 0.1-0.3% of oven dry pulp or paint by weight.

Package:

As customers' requirements.

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荧光增白剂 VBL

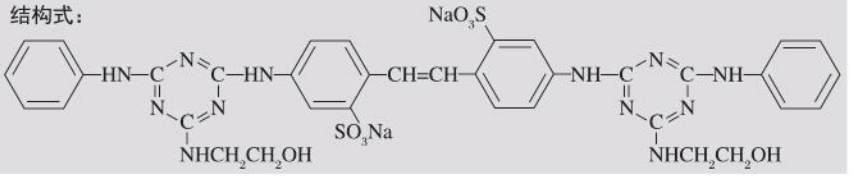
C.I.荧光增白剂85

12224-06-5
CAS号

$C_{36}H_{34}N_{12}Na_2O_8S_2$
化学式

872.84
分子量

结构式：



技术指标：

项目	指标	
	用于纺织品	用于造纸
外观	淡黄色-黄色均匀粉末	
荧光强度	100±3	
色光	近似-微	— —
白度（与标准品的白度之差）	— —	≥-3
水分	≤5%	
不溶于水杂质含量	≤0.5%	
细度（通过250μm孔径筛的残余物）	≤10	
23种有害芳香胺限量（mg/kg）	符合GB19601-2004标准要求	

性能及特点：

1、荧光增白剂VBL是双（三嗪氨基）型荧光增白剂的典型代表产品，可溶于80倍的软水中，呈阴离子性质，荧光，色调为青光 微紫（蓝紫色）耐酸碱程度为PH=6-11，染浴PH以8-9为宜；

2、在酸性溶液中，因酸性加强使荧光逐渐减弱而泛黄。可耐硬水至300ppm，耐游离氯至0.25%，不耐铜、铁等金属离子，对保险粉稳定，但不耐高温烘焙；

3、它可与阴离子表面活性剂或染料、非离子表面活性剂、双氧水同浴使用；不宜与阳离子型染料及表面活性剂、合成树脂初缩体等同浴使用。

适用范围：

1、用于棉和粘胶的白色产品的增白，以及浅色或印花产品的增艳，耐日晒牢度一般，对纤维素纤维的亲和力好，均染性一般，印染、轧染和印花浆中均适用；2、可用于维纶、棉纶产品的增白；3、用于造纸行业、纸浆或涂料的增白。

使用方法：

1、在印染行业中，将荧光增白剂直接加入染缸，用水溶解即可使用。用量：0.08-0.3%，浴比：1:40，最佳染浴温度：60°C；2、在造纸行业中，用80倍水将荧光增白剂溶解后加入纸浆或涂料中，用量为绝干纸浆或绝干涂料重的0.1-0.3%。

包装：

按客户要求包装。

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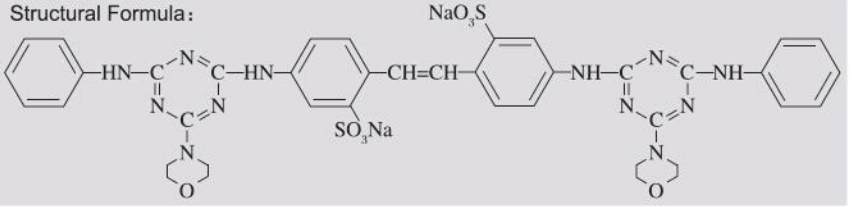
OPTICAL BRIGHTENING AGENT DMS

(C.I.71)

16090-02-1	$C_{40}H_{38}N_{12}Na_2O_8S_2$	924.91
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality	
	DMS	AMS
Appearance	White or light yellow uniform powder/granule	
1% Extinction Coefficient	416±13	560±20
Moisture	≤5%	
Insoluble impurity in water	≤0.5%	
Fineness（residue on 250μm sieve）	≤5%	

Characteristics and advantages:

DMS is regarded as a high-quality optical brightener for production of detergent. It is anionic and its fluorescent color is blue-purple.

It has better resistance against chlorine bleaching than VBL and 31#. The optimum value for dye bath is PH7-10 and its light fastness is grade 4.

Due to the introduction of morpholine in its molecule, DMS has been improved in many aspects. In addition to better resistance against acid, its resistance against perborate has been significantly improved and it is suitable for whitening of cellulosic fiber, nylon and fabrics.

When used for production of detergent powder, its most conspicuous advantages are blending with higher proportion, high accumulated whitening effect and the ability to meet detergent industry's requirement of various proportions of blending.

Application fields:

Recommended for detergent, it can yield intense whitening effect and improve visual effect for synthetic detergent powder and soap.

Suitable for whitening cotton fiber, nylon and other fabrics, it can produce excellent whitening effect on artificial fiber, polyamide and vinylon. It is also suitable for whitening of azelon and aminoplastics.

Usage:

The water solubility of DMS is lower compared to VBL and 31#. Adding hot water, the obtained 10% suspension will be ready for use. The suspension should be used immediately and direct sunlight should be avoided. The dosage for detergent powder and printing & dyeing industry is 0.08-0.4% and 0.1-0.3% respectively.

Package:

As customers' requirements.

0317-7750938
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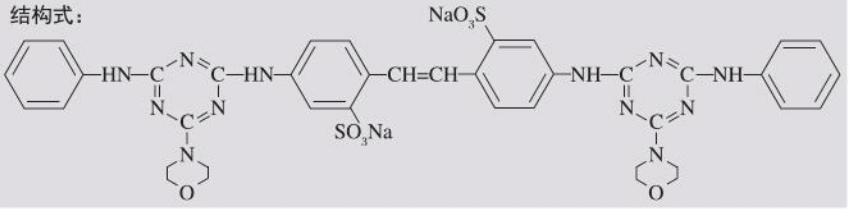
荧光增白剂 DMS

C.I.荧光增白剂71

16090-02-1	$C_{40}H_{38}N_{12}Na_2O_8S_2$	924.91
CAS号	化学式	分子量

结构式：



技术指标：

项目	指标	
	DMS	AMS
外观	白色、淡黄色均匀粉末或者颗粒	
1%消光系数	416±13	560±20
水分	≤5%	
水不溶物含量	≤0.5%	
细度（通过250μm孔径筛残余物的量）	≤5%	

性能及特点：

1、荧光增白剂DMS是一种目前被认为用于生产洗涤剂的优良荧光增白剂，其电离性表现为阴离子性质，荧光色调为蓝紫光；

2、其耐氯漂性能较好，优于VBL和31#，使用最佳染浴的PH=7-10，耐晒牢度为4级；

3、由于增白剂分子中引入吗啉基因，使其许多性能得到改善。改善了耐酸性能同时也大大提升了耐过硼酸盐性能，适用于纤维素纤维、聚酰胺纤维及织物的增白；

4、DMS用于洗衣粉中最大特点是：配合量高，积累洗涤白度高，能满足洗涤剂工业任何配合量的要求。

适用范围：

1、适用于洗涤剂，配入合成洗衣粉、肥皂、香皂中，能使其外观洁白悦目、晶莹丰满；

2、用于棉纤维、尼龙等织物增白，对人造纤维、聚酰胺、维尼纶有优良的增白效果；对蛋白纤维、氨基塑料也有良好的增白作用。

使用方法：

荧光增白剂DMS在水中的溶解度比增白剂VBL和31#低，可用热水调成10%左右的悬浊液使用。配成溶液时，宜随配随用，溶液应避免阳光直射。荧光增白剂DMS在洗衣粉中用量为0.08-0.4%；在印染行业用量0.1-0.3%。

包装：

按客户要求包装。

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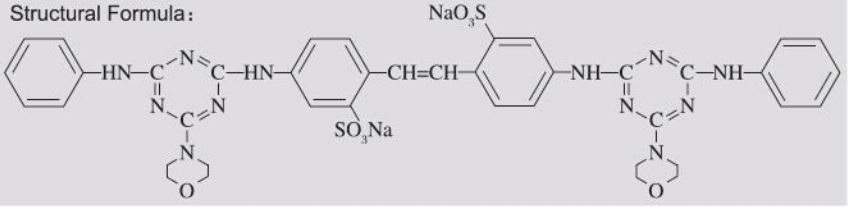
OPTICAL BRIGHTENING AGENT AMS

(C.I.71)

16090-02-1	$C_{40}H_{38}N_{12}Na_2O_8S_2$	924.91
CAS No.	Molecular Formula	Molecular Weight

Structural Formula:



Specification:

Items	Index of quality	
	DMS	AMS
Appearance	White or light yellow uniform powder/granule	
1% Extinction Coefficient	416±13	560±20
Moisture	≤5%	
Insoluble impurity in water	≤0.5%	
Fineness（residue on 425μm sieve）	≤5%	

Characteristics and advantages:

AMS is regarded as a high-quality optical brightener for production of detergent. It is anionic and its fluorescent color is blue-purple.

It has better resistance against chlorine bleaching than VBL and 31#. The optimum value for dye bath is PH7-10 and its light fastness is grade 4.

Due to the introduction of morpholine in its molecule, AMS has been improved in many aspects. In addition to better resistance against acid, its resistance against perborate has been significantly improved and it is suitable for whitening of cellulosic fiber, nylon and fabrics.

When used for production of detergent powder, its most conspicuous advantages are blending with higher proportion, high accumulated whitening effect and the ability to meet detergent industry's requirement of various proportions of blending.

Application fields:

Recommended for detergent, it can yield intense whitening effect and improve visual effect for synthetic detergent powder and soap.

Suitable for whitening cotton fiber, nylon and other fabrics, it can produce excellent whitening effect on artificial fiber, polyamide and vinylon. It is also suitable for whitening of azelon and aminoplastics.

Usage:

The water solubility of AMS is lower compared to VBL and 31#. Adding hot water, the obtained 10% suspension will be ready for use. The suspension should be used immediately and direct sunlight should be avoided. The dosage for detergent powder and printing & dyeing industry is 0.08-0.4% and 0.1-0.3% respectively.

Package:

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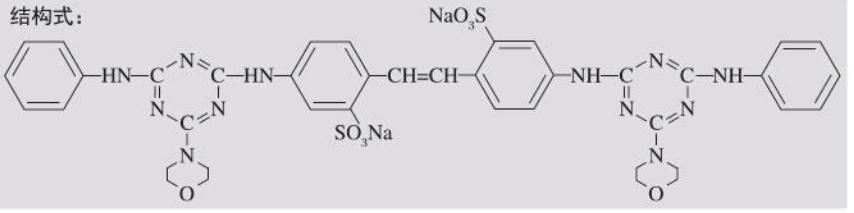
CAS号	化学式	分子量

结构式：



技术指标：

项目	指标	
	DMS	AMS
外观	白色、淡黄色均匀粉末或者颗粒	
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水分	≤5%	
水不溶物含量	≤0.5%	
细度（通过425μm孔径筛残余物的量）	≤5%	

性能及特点：

1、荧光增白剂AMS是一种目前被认为用于生产洗涤剂用的优良荧光增白剂，其电离性表现为阴离子性质，荧光色调为蓝紫光；

2、荧光增白剂AMS的耐氯漂性能较好，优于VBL和31#，使用最佳染浴的PH=7-10，其耐晒牢度为4级；

3、由于这种增白剂分子中引入吗啉基因，使其许多性能得到改善。改善了耐酸性能同时也大大提升了耐过硼酸盐性能，适用于纤维素纤维、聚酰胺纤维及织物的增白；

4、AMS用于洗衣粉中最大特点是：配合量高，积累洗涤白度高，能满足洗涤剂工业任何配合量的要求。

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使用方法：

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包装：

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TSAKER CHEMICAL GROUP LIMITED
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