

# Safety Data Sheet

## NST MIG/TIG high alloyed consumables, Mo

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

#### 1.1. Product identifier

Product name : NST MIG/TIG high alloyed consumables, Mo  
 Synonyms : NST MIG 309LSi, NST TIG 309LSi, NST MIG 307, NST MIG 309L Mo, NST TIG 309L Mo, NST MIG 316 LSi, NST TIG 316 LSi, NST MIG Duplex 2209, NST TIG Duplex 2209, NST MIG Superduplex 2594 , NST TIG Superduplex 2594, NST MIG 308LSi, NST TIG 308LSi

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

##### Relevant identified uses

Main use category : Professional use  
 Use of the substance/mixture : Welding wire

##### Uses advised against

No additional information available

#### 1.3. Details of the supplier of the safety data sheet

Norsk Sveiseteknikk AS  
 Postboks 171, 3371 Vikersund  
 T + 47 99 27 80 00 - F + 47 32 82 90 19  
[nst.no](http://nst.no)

Contact person : Eyvind Røed (E.post: Eyvind@nst.no)

#### 1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number
United Kingdom	National Poisons Information Service (Newcastle Unit)	Claremont Place Newcastle-upon-Tyne, Newcastle	+44 191 2606182/+44 191 2606180 24H

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

##### Classification according to Regulation (EC) No. 1272/2008 [CLP]

Skin Sens. 1 H317  
 Carc. 2 H351  
 STOT RE 1 H372

Full text of hazard classes and H-statements : see section 16

#### 2.2. Label elements

Alloy. According to EC directives or the corresponding national regulations there is no labelling obligation for this product.

#### 2.3. Other hazards

Other hazards not contributing to the classification : In the smoke emitted by use, there will be an additional risk if inhaled. Intensive exposure to welding fumes may cause lung disease, bronchitis, or worsen already existing inhalation problems. Intensified exposure to manganese (Mn) can damage the central nervous system or worsen existing health problems.

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Nickel (Note S)(Note 7)	(CAS No) 7440-02-0 (EC no) 231-111-4 (EC index no) 028-002-00-7	9 - 11	Carc. 2, H351 STOT RE 1, H372 Skin Sens. 1, H317
Manganese	(CAS No) 7439-96-6 (EC no) 231-105-1 (REACH-no) 01-2119449803-34	1 - 2.5	Not classified
silicon	(CAS No) 7440-21-3 (EC no) 231-130-8 (REACH-no) 01-2119480401-47	0.65 - 1	Not classified
Molybdate	(CAS No) 7439-98-7 (EC no) 231-107-2 (REACH-no) 01-2119472304-43	< 0.3	Not classified
Copper	(CAS No) 7440-50-8 (EC no) 231-159-6 (REACH-no) 01-2119480154-42	< 0.3	Not classified

Note 7 : Alloys containing nickel are classified for skin sensitisation when the release rate of 0,5 µg Ni/cm<sup>2</sup>/week, as measured by the European Standard reference test method EN 1811, is exceeded.

Note S : This substance may not require a label according to Article 17 (see section 1.3 of Annex I) (Table 3.1). This substance may not require a label according to Article 23 of Directive 67/548/EEC (see section 8 of Annex VI to that Directive) (Table 3.2).

Full text of H-statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

- First-aid measures general : General first aid, rest, warmth and fresh air. In all cases of doubt, or when symptoms persist, seek medical attention.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove victim immediately from source of exposure. Get medical attention if any discomfort continues.
- First-aid measures after skin contact : Wash with plenty of soap and water. If burned, cool skin with ice or cold water. Burns must be treated by a physician. Get medical attention if any discomfort continues.
- First-aid measures after eye contact : Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Obtain medical attention if pain, blinking or redness persists.
- First-aid measures after ingestion : Ingestion is unlikely due to product's physical state.

### 4.2. Most important symptoms and effects, both acute and delayed

- Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.
- Symptoms/injuries after inhalation : Overexposure to welding fumes may affect pulmonary function. Strong exposure to manganese may affect the nervous system  
. Inhalation of vapours may cause respiratory irritation.
- Symptoms/injuries after skin contact : May cause an allergic skin reaction.
- Symptoms/injuries after ingestion : Ingestion is unlikely due to product's physical state.

### 4.3. Indication of any immediate medical attention and special treatment needed

Electric shock: Disconnect and turn off the power. If the victim is conscious or has partial loss of consciousness, open the airways. If the breathing has stopped, give artificial respiration. If cardiac arrest, provide heart massage and artificial respiration.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

- Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire. Foam, carbon dioxide or dry powder.
- Unsuitable extinguishing media : Do not use a heavy water stream.

### 5.2. Special hazards arising from the substance or mixture

- Fire hazard : Not regarded as a fire hazard under current legislation.
- Hazardous decomposition products in case of fire : Carbon oxides (CO, CO<sub>2</sub>). Metallic oxides. Toxic gases/vapours/fumes.

### 5.3. Advice for firefighters

- Protection during firefighting : Do not enter fire area without proper personal protective equipment, including respiratory protection.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

- General measures : Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer). Avoid contact with skin and eyes. Provide good ventilation.

**For non-emergency personnel**

Protective equipment : Wear appropriate personal protective equipment - see Section 8.

**For emergency responders**

No additional information available

**6.2. Environmental precautions**

Avoid release to the environment.

**6.3. Methods and material for containment and cleaning up**

For containment : Collect all waste in suitable and labelled containers and dispose according to local legislation.

**6.4. Reference to other sections**

See section 13 for waste handling. For further information refer to section 8: "Exposure controls/personal protection".

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Precautions for safe handling : Wear appropriate personal protective equipment - see Section 8. Ensure adequate ventilation. Forced ventilation or exhaust vacuum for handling that generates dust, smoke, vapors or mist. Avoid breathing dust and fumes generated during processing, and insure adequate ventilation of the workplace.

Hygiene measures : Do not eat, drink or smoke when using this product.

**7.2. Conditions for safe storage, including any incompatibilities**

Storage conditions : Protect from moisture.

Incompatible materials : Acids.

**7.3. Specific end use(s)**

No additional data. For professional use only.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

<b>Nickel (7440-02-0)</b>		
EU	Local name	Nickel metal
EU	IOELV TWA (mg/m <sup>3</sup> )	0.005 mg/m <sup>3</sup> (respirable fraction) 0.01 mg/m <sup>3</sup> (inhalable fraction)
EU	Notes	SCOEL Recommendations (2011)
United Kingdom	Local name	Nickel
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> and its inorganic compounds (except nickel tetracarbonyl), water-soluble nickel compounds (as Ni) 0.5 mg/m <sup>3</sup> and its inorganic compounds (except nickel tetracarbonyl), nickel and water insoluble nickel compounds (as Ni)
United Kingdom	Remark (WEL)	Sk (Can be absorbed through the skin. The assigned substances are those for which there are concerns that dermal absorption will lead to systemic toxicity), Carc (nickel oxides and sulphides)(Capable of causing cancer and/or heritable genetic damage. See paragraphs 49–51), Sen (nickel sulphate)(Capable of causing occupational asthma. See paragraphs 53–56)
<b>Manganese (7439-96-6)</b>		
EU	Local name	Manganese
EU	IOELV TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> (inhalable fraction) 0.05 mg/m <sup>3</sup> (respirable fraction)
EU	Notes	SCOEL Recommendations (2011)
United Kingdom	Local name	Manganese
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.5 mg/m <sup>3</sup> and its inorganic compounds (as Mn)
<b>Molybdate (7439-98-7)</b>		
United Kingdom	Local name	Molybdenum
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> insoluble compounds (as Mo) 5 mg/m <sup>3</sup> soluble compounds (as Mo)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	20 mg/m <sup>3</sup> insoluble compounds (as Mo) 10 mg/m <sup>3</sup> soluble compounds (as Mo)
<b>silicon (7440-21-3)</b>		
United Kingdom	Local name	Silicon

<b>silicon (7440-21-3)</b>		
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> inhalable dust 4 mg/m <sup>3</sup> respirable dust
<b>Copper (7440-50-8)</b>		
EU	Local name	Copper
EU	IOELV TWA (mg/m <sup>3</sup> )	0.01 mg/m <sup>3</sup> (respirable fraction)
EU	Notes	SCOEL Recommendations (2014)
United Kingdom	Local name	Copper
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.2 mg/m <sup>3</sup> fume (as Cu) 0.2 mg/m <sup>3</sup> fume (as Cu) 1 mg/m <sup>3</sup> and compounds, dusts and mists (as Cu)
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	2 mg/m <sup>3</sup> and compounds, dusts and mists (as Cu)

**Exposure limit values for the other components**

<b>cobalt (7440-48-4)</b>			
United Kingdom	Local name	Cobalt	
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.1 mg/m <sup>3</sup> and Cobalt compounds (as Co)	
United Kingdom	Remark (WEL)	Carc (cobalt dichloride and sulphate)(Capable of causing cancer and/or heritable genetic damage. See paragraphs 49–51), Sen (Capable of causing occupational asthma. See paragraphs 53–56)	

<b>carbon monoxide (630-08-0)</b>			
EU	Local name	Carbon monoxide	
EU	IOELV TWA (mg/m <sup>3</sup> )	23 mg/m <sup>3</sup>	
EU	IOELV TWA (ppm)	20 ppm	
EU	IOELV STEL (mg/m <sup>3</sup> )	117 mg/m <sup>3</sup>	
EU	IOELV STEL (ppm)	100 ppm	
EU	Notes	SCOEL Recommendations (1995)	
United Kingdom	Local name	Carbon monoxide	
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	35 mg/m <sup>3</sup>	
United Kingdom	WEL TWA (ppm)	30 ppm	
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	232 mg/m <sup>3</sup>	
United Kingdom	WEL STEL (ppm)	200 ppm	
United Kingdom	Remark (WEL)	BMGV (Biological monitoring guidance values are listed in Table 2)	

<b>ironoxide (1309-37-1)</b>			
United Kingdom	Local name	Iron oxide	
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	5 mg/m <sup>3</sup> fume (as Fe) 4 mg/m <sup>3</sup> Rouge, respirable 10 mg/m <sup>3</sup> Rouge, total inhalable	
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	10 mg/m <sup>3</sup> fume (as Fe)	

<b>nitrogen dioxide (10102-44-0)</b>			
EU	Local name	Nitrogen dioxide	
EU	IOELV TWA (mg/m <sup>3</sup> )	0.955 mg/m <sup>3</sup>	
EU	IOELV TWA (ppm)	0.5 ppm	
EU	IOELV STEL (mg/m <sup>3</sup> )	1.91 mg/m <sup>3</sup>	
EU	IOELV STEL (ppm)	1 ppm	

nitrogen dioxide (10102-44-0)			
EU	Notes	SCOEL Recommendations (2014)	
Ozon (10028-15-6)			
United Kingdom	Local name	Ozone	
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	0.4 mg/m <sup>3</sup>	
United Kingdom	WEL STEL (ppm)	0.2 ppm	
phosgene, carbonyl chloride (75-44-5)			
EU	Local name	Phosgene	
EU	IOELV TWA (mg/m <sup>3</sup> )	0.08 mg/m <sup>3</sup>	
EU	IOELV TWA (ppm)	0.02 ppm	
EU	IOELV STEL (mg/m <sup>3</sup> )	0.4 mg/m <sup>3</sup>	
EU	IOELV STEL (ppm)	0.1 ppm	
United Kingdom	Local name	Phosgene	
United Kingdom	WEL TWA (mg/m <sup>3</sup> )	0.08 mg/m <sup>3</sup>	
United Kingdom	WEL TWA (ppm)	0.02 ppm	
United Kingdom	WEL STEL (mg/m <sup>3</sup> )	0.25 mg/m <sup>3</sup>	
United Kingdom	WEL STEL (ppm)	0.06 ppm	

**8.2. Exposure controls**

- Appropriate engineering controls : Ensure good ventilation of the work station. Provide eyewash station.
- Personal protective equipment : Safety glasses. Gloves.
- Hand protection : Wear suitable gloves. Heat-resistant gloves. STANDARD EN 374
- Eye protection : Wear safety glasses with high protection against UV radiation. Chemical goggles or face shield. STANDARD EN 166
- Skin and body protection : Wear suitable protective clothing. Använd värmeisolerande handskar, skor och annan säkerhetsutrustning avsedda för svetsning
- Respiratory protection : Respiratory protection must be used if air contamination exceeds acceptable level. Standard EN 143



- Other information : Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the protective equipment. Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet.

**SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**9.1. Information on basic physical and chemical properties**

- Physical state : Solid
- Appearance : Wire.
- Colour : copper.
- Odour : None.
- Odour threshold : No data available
- pH : No data available
- Relative evaporation rate (butylacetate=1) : No data available
- Melting point : No data available
- Freezing point : No data available
- Boiling point : No data available
- Flash point : No data available
- Auto-ignition temperature : No data available
- Decomposition temperature : No data available

Flammability (solid, gas)	: No data available
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: ≈ 7 g/cm³
Solubility	: The product is insoluble in water.
Log Pow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: No data available

**9.2. Other information**

Additional information : None to our knowledge.

**SECTION 10: STABILITY AND REACTIVITY**

**10.1. Reactivity**

No incompatible groups noted.

**10.2. Chemical stability**

Stable when used at recommended storage and handling conditions.

**10.3. Possibility of hazardous reactions**

Will not polymerise.

**10.4. Conditions to avoid**

Avoid high temperatures. Upon heating, toxic fumes are formed.

**10.5. Incompatible materials**

Acids. May liberate toxic gases.

**10.6. Hazardous decomposition products**

No decomposition if stored and used normally.

**SECTION 11: TOXICOLOGICAL INFORMATION**

**11.1. Information on toxicological effects**

Acute toxicity : Not classified

<b>Nickel (7440-02-0)</b>	
LD50 oral rat	> 5000 mg/kg
<b>Manganese (7439-96-6)</b>	
LD50 oral rat	9000 mg/kg
<b>silicon (7440-21-3)</b>	
LD50 oral rat	3160 mg/kg

Skin corrosion/irritation	: Not classified Prolonged or repeated contact may cause skin to become dry or cracked
Serious eye damage/irritation	: Not classified Dust in the eyes causes risk of permanent eye damage
Respiratory or skin sensitisation	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Overexposure to welding fumes may affect pulmonary function. Strong exposure to manganese may affect the nervous system
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified Dust may irritate throat and respiratory system and cause coughing

STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.  
Overexposure to air contaminants may lead to their accumulation in the lungs. The severity of the change is proportional to the length of the exposure. TLong term exposure to welding and allied processes gasses, dusts and fumes may contribute to pulmonary irritation or pneumoconiosis. Long term overexposure to nickel fumes may also cause pulmonary fibrosis and edema. Chromium compounds have a corrosive action on the skin and mucous membranes. Liver damage and allergic skin rash have also been reported. Overexposure to manganese compounds may affect the central nervous system and is irreversible. Overexposure to copper fumes may lead to copper poisonin. Welding fumes (not otherwise specified) are possibly carcinogenic to humans.

Aspiration hazard : Not classified

**SECTION 12: ECOLOGICAL INFORMATION**

**12.1. Toxicity**

Ecology - general : Not regarded as dangerous to the environment. This does not, however, rule out the possibility that large or frequent smaller emissions of the product may be harmful to the environment.

<b>Nickel (7440-02-0)</b>	
LC50 fish 1	> 100 mg/l (96 hours - Brachydanio rerio, zebra-fish)
EC50 Daphnia 1	> 100 mg/l Daphnia magna, 48 hours
IC50 algae	0.18 mg/l (IC50, 72 hours - Selenastrum capricornutum)
<b>Manganese (7439-96-6)</b>	
LC50 fish 1	2.91 mg/l (96 hours)
EC50 Daphnia 1	5.2 mg/l 48 hours
IC50 algae	0.55 mg/l (IC50, 72 hours)
<b>Molybdate (7439-98-7)</b>	
LC50 fish 1	2600 mg/l LC50-96 h - fish [mg/l]

**12.2. Persistence and degradability**

<b>NST MIG/TIG high alloyed consumables, Mo</b>	
Persistence and degradability	The product is not readily biodegradable.

**12.3. Bioaccumulative potential**

<b>NST MIG/TIG high alloyed consumables, Mo</b>	
Bioaccumulative potential	No data.
<b>Nickel (7440-02-0)</b>	
Bioconcentration factor (BCF REACH)	16
Log Pow	< 0
<b>Manganese (7439-96-6)</b>	
Bioconcentration factor (BCF REACH)	59052
<b>Copper (7440-50-8)</b>	
Bioconcentration factor (BCF REACH)	29

**12.4. Mobility in soil**

<b>NST MIG/TIG high alloyed consumables, Mo</b>	
Ecology - soil	The product is insoluble in water.

**12.5. Results of PBT and vPvB assessment**

<b>NST MIG/TIG high alloyed consumables, Mo</b>	
This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII	
This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII	

**12.6. Other adverse effects**

Other adverse effects : No information.

**SECTION 13: DISPOSAL CONSIDERATIONS**

**13.1. Waste treatment methods**

Regional legislation (waste) : Product is not hazardous waste.  
 Waste treatment methods : Do not discharge into drains.  
 Waste disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
 Additional information : The given LoW-code is a guiding, and the code depends on how the waste is formed. User must evaluate the choice of correct code.  
 European List of Waste (LoW) code : 12 01 13 - welding wastes

**SECTION 14: TRANSPORT INFORMATION**

In accordance with ADR / RID / IMDG / IATA / ADN

<b>14.1. UN number</b>	Not regulated for transport
<b>14.2. UN proper shipping name</b>	
<b>14.3. Transport hazard class(es)</b>	
<b>14.4. Packing group</b>	
<b>14.5. Environmental hazards</b>	
No supplementary information available	

**14.6. Special precautions for user**

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

IBC code : No IBC-code for bulk transport offshore (MARPOL).

**SECTION 15: REGULATORY INFORMATION**

**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**EU-Regulations**

Contains no substance on the REACH candidate list

**National regulations**

EC-regulation 2015/830 /EC, 1907/2006/EC (REACH), 1272/2008/EC (CLP), 790/2009/EC. Transport of dangerous goods (ADR/RID, IMDG, IATA/ICAO). Workplace exposure limits

**15.2. Chemical safety assessment**

No chemical safety assessment has been carried out

**SECTION 16: OTHER INFORMATION**

Indication of changes:

3.2	Composition/information on ingredients	Modified	
8.1	Limit values	Added	

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 Version : 4.0  
 Signature : A. Åsebø Murel

Full text of H- and EUH-statements:

Carc. 2	Carcinogenicity, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
H317	May cause an allergic skin reaction
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure

The information in this safety data sheet is based on information from the manufacturer/supplier, present European and national legislation, and presupposes that the product is used within the specified area of application.